

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

Stories of the Week
Definitions of the Week
Prayer for 1954
Verse for the New Year
Task for Coming Months
Luck and Justice—the
Great Levelers
Socialist Instructors Have
Unsprung a Generation

Stories of the Week

Among the cleverest holiday remembrances of the 1953 season:

Nash-Kelvinator publicists sent out a basket containing jug of wine, a loaf of bread, and a copy of Omar Khayyam's romantic "Rubaiyat." However, they didn't supply a dusky maiden to be the "and thou" of Omar's classic poem.

Friends of Jerry Lewis and Dean Martin received falsely-formal engraved cards which stated:

"In your name a gift has been sent to King Farouk."

Those storms which knocked out electrical transmission lines recently were a boon to hardware dealers.

"We sold flashlights, heaters, and old-fashioned lanterns," relays a loyal subscriber. "And our demand for Sterno hasn't been so great since Prohibition."

Definitions of the Week

Psychology reveals what you already knew in words you don't understand.

A lot of good behavior is due to poor health.—*American Eagle*.

Prayer for 1954

Take twelve fine, full-grown months. Make them thoroughly free from old memories of bitterness, rancor, hate and jealousy; cleanse them completely from every clinging spite; pick off all specks of pettiness and littleness; in short, see that these months are freed from all the past—have them as fresh and clean as when they first came from the storehouse of Time.

Cut these months into 30 or 31 equal parts. This batch will keep for a year. Do not attempt to make up the whole batch at one time (so many people spoil the entire lot in this way) but prepare one day at a time, as follows:

Into each day put 12 parts of faith, 11 parts of patience, 10 of courage, nine parts of work (some people omit this ingredient and so spoil the flavor of the rest), eight parts of hope, seven of fidelity, six of liberality, five of kindness, four of rest, three parts of prayer, two of meditation, and one well-selected resolution.

Put in a teaspoonful of good spirits, a dash of fun, a pinch of folly, a sprinkling of play, a cupful of good humor. Pour into the whole LOVE, and mix with a vim. Cook thoroughly in a fervent heat; garnish with a few smiles; serve with unselfishness and cheerfulness, and a Happy New Year is a certainty.—*Telescope-Messenger*.

Verse for the New Year

"Work thou for pleasure . . . paint, or sing or carve
The thing thou lovest, though the body starve . . .
Who works for glory misses off the goal;
Who works for money coins his very soul.
Work for the work's sake, then, and it may be
That these things shall be added unto thee."

—KENYON COX

Task for Coming Months

Herewith a few observations on economics for the New Year. They aren't earthshaking, but we fondly believe they're pertinent.

(Concluded on Page 13, Column 1)

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NARDA Meeting Set for Chicago From Jan. 10-12

CHICAGO—Four panel discussions, sessions on selling, management, and color television, and a general session on a variety of subjects have been programmed along with other features for the 1954 annual convention of the National Appliance & Radio-TV Dealers Association.

The convention will be held Jan. 10-12 at the Conrad Hilton hotel here. The panel discussions are scheduled to start at 2:30 p.m. on Sunday, Jan. 10. H. B. Price, Jr. of Norfolk, Va., vice president of NARDA, will act as general chairman.

Subjects to be covered and discussion leaders are: Television service—Hal Chase, Chase Television, Detroit; advertising, sales promotion, and display—Kenneth Gillespie, Jenkins Music Co., Kansas City, Mo.; manpower—Price; local organizations—C. D. Hughes, Wichita Appliance Dealers Association; and George Bates, Memphis Retail Appliance Dealers Association.

A 7:30 a.m. breakfast session will start off the program for Monday. NARDA President Wallace Johnston of Memphis will be the chairman. Listed for this session are the president's report, the nominating committee's report, election of directors, (Concluded on Page 33, Column 3)

RACCA West Coast Members To Meet In Long Beach Mar. 11

CLEVELAND—The Refrigeration and Air Conditioning Contractors Association is planning a regional convention for its west coast membership to be held in the Long Beach, Calif. municipal auditorium, March 11-13. Ray Kromer, executive vice president, announced recently.

The convention will be held in conjunction with the educational conference sponsored by the Air Conditioning & Refrigeration Institute.

Henry Ely, secretary of the Los Angeles chapter of RACCA, has been appointed convention chairman.

At the same time, W. H. Schemers, chairman of RACCA's publicity committee, announced that the association now has a roster of expert speakers available for talks at local chapter meetings.

The roster, which contains the (Concluded on Back Page, Column 2)

Mitchell Gets 400,000 Room Cooler Orders

CHICAGO—Mitchell Mfg. Co. has received orders for 400,000 room air conditioners, Bernard A. Mitchell, president, announced following a four-week nationwide sales trip.

This is twice the number of orders placed last year during a similar series of sales meetings, he said.

Mitchell estimated that only 3% of the country's homes and offices now have room air conditioners. He predicted that another 1,500,000 will be equipped with units before the end of next summer.

Mitchell asserted that his company's "Distributor-Dealer Protection Plan" is playing an important part in the company's record-breaking sales.

This program protects sellers of room air conditioners against finan- (Concluded on Page 21, Column 4)

Background of Murder

New York Unions Struggle To Control Installation and Service Workers

NEW YORK CITY—There is a struggle among unions here for the control of installation and service workers in the refrigeration and air conditioning trades with a background that traces back to Tommy Lewis, labor leader whose murder last Aug. 28 touched off one of the most intensive investigations into labor political tie-ups ever to be started in this country.

It is a known fact that Lewis was negotiating a contract with representatives of a refrigeration and air conditioning contractors group the day before he was murdered.

Those negotiations fell through after Lewis met his violent end, but two of his lieutenants are now said to be trying to organize contractors' employees as representatives of an independent union.

It is also stated that the Teamster's Union has instigated some activities which would seem to point to an effort to get refrigeration and air conditioning workers under their wing.

Here's the story of the course of events in the refrigeration and air conditioning service and installation workers union setup that has taken some strange turns in the last year.

Labor contracts in the New York area between refrigeration and air conditioning contractors and unions have in the past been generally on the basis of individually (by company) negotiated contracts, rather than industry-wide contracts. Most of these contracts were with Local 638, AF of L (steamfitters).

The union which Tommy Lewis controlled was the Building Service (Concluded on Page 33, Column 2)

Admiral Announces '54 Appliances

CHICAGO—Admiral Corp. introduced its new 1954 lines of refrigerators, freezers, ranges, room air conditioners, and dehumidifiers to more than 900 distributors and their sales staffs recently and offered a free Packard Clipper club sedan to every dealer that bought two mixed carloads in the first quarter of the year.

At the same time, President Ross D. Siragusa informed the distributors that Admiral's total sales of approximately a quarter billion dollars in 1953 made that year the biggest in the company's 20-year history.

Siragusa described the general business outlook as "good" despite "conversational pessimism." A general economic adjustment has been in progress for some time, he said, and 1954 may show an over-all 5% decline from 1953.

Admiral anticipates a substantial boost in appliance sales this year (Concluded on Page 4, Column 1)

Gibson To Make Central Air Conditioning Systems

GREENVILLE, Mich.—Gibson Refrigerator Co. will start manufacturing central residential and commercial air conditioning systems this year, some of them for a national furnace manufacturer, Charles J. Gibson, president, reported recently.

Gibson said he expected an expanded market for the company's window coolers this year, but an extremely competitive market for home appliances.

He reported that the company's net sales for the fiscal year ending Sept. 30, 1953 totaled \$42,585,335.27, an increase of 48% over the previous fiscal year.

He said that extensive research and advertising are planned to get an increased share of the appliance market this year.

Sale of Eureka Williams to Henney Motor Co. Approved

DETROIT—Sale of the manufacturing assets of Eureka Williams Corp., Bloomington, Ill., to Henney Motor Co., Freeport, Ill., was approved at a special meeting of Eureka Williams stockholders held here recently.

Eureka Williams manufactures vacuum cleaners, waste food disposers, oil and gas home heating units, (Concluded on Back Page, Column 5)

Norge Shows 4-Model Refrigerator Line

CHICAGO—Norge Div. of Borg-Warner Corp. has announced a "four-model refrigerator line—the industry's shortest"—headed by two new refrigerator-freezer combinations, plus a special 7.5-cu. ft. refrigerator.

Called the "Customatics," the two single-door refrigerator-freezer combinations feature a refrigeration system which eliminates all manual controls and makes defrosting unnecessary, according to R. C. Connell, director of sales.

The 11.13 net (Nema) cu. ft. Customatic refrigerator-freezer combination model 1180, with an 80-lb. freezer chest, will retail at \$399.95. The 9 net (Nema) cu. ft. Customatic refrigerator-freezer combination model (Concluded on Page 33, Column 4)

NEMA Refrigerator Sales Pass 3 Million In Oct.

(See table on page 35)

NEW YORK CITY—Refrigerator sales for the first 10 months of 1953 passed the 3,000,000 mark, the National Electrical Manufacturers Association announced recently.

For that period, the 17 manufacturers reporting to the association sold 3,153,887 household refrigerators, 10% more than they sold in the same period of 1952.

October sales, however, dropped 23% below those of October, 1952 and were off 22% from September. The month's total was 179,749 units. Only bright spot in the October picture was the sales to foreign countries other than Canada. These jumped 50% over September and were 22% better than in October, 1952.

Emerson Radio Shows 29 Air Conditioner Models

NEW YORK CITY—A complete line of 29 room, residential, and commercial air conditioning units were introduced to company distributors here and in Chicago recently by the Emerson Radio & Phonograph Corp., marking the entry of that firm into the air conditioning field.

Benjamin Abrams, company president, told the distributors: "Emerson is entering this new field of endeavor with the utmost confidence . . . Since there are no giants in the industry at (Concluded on Page 33, Column 1)

Buyers Converge In Chicago for Winter Marts

Most Major Appliance Lines Already Announced; Many Dealers Get First Look

CHICAGO—Buyers from all over the country today (Jan. 4) will start making the rounds of appliance showrooms at The American Furniture Mart and The Merchandise Mart as the annual Winter Home Furnishings Markets get under way for a two-week run.

Although most of the 1954 major appliance lines have already been announced, many dealers will be getting their first look at the new products.

All the Loop hotels and a number of major hotels outside the Loop reportedly were sold out for all or most of the first week, but it is expected that space will be pretty generally available the second week.

Many retailers will come to Chicago for the second week to take in both the Markets and the annual convention of the National Appliance & Radio-TV Dealers Association.

Visitors will find one appliance exhibitor, Hotpoint Co., in a new location. On Jan. 3, the company formally opened an ultra-modern showroom (room 1120) in The Merchandise Mart. To be open all year 'round, the new showroom will house Hotpoint's (Concluded on Back Page, Column 2)

Carrier Liberalizes Financing Plan

SYRACUSE, N. Y.—A new distributor dealer finance plan that is claimed to be the most liberal in the air conditioning industry was announced recently by John M. Bickel, vice president in charge of the unitary equipment division of Carrier Corp.

Major features of the program are:

1. No interest charges to the selling organization for financing inventory will be made at any time whether equipment is in the warehouse, in distributor stocks, or in the hands of associate dealers (those (Concluded on Back Page, Column 1)

Coleman Expands Line, Enters Commercial Field

WICHITA, Kan.—The Coleman Co. here announces a line of nine air conditioning systems for 1954—six models of two distinct types for homes and three models for commercial applications.

The company is broadening its coverage of the residential market by adding 5-ton models to its two former lines of 2 and 3-ton models, and is entering the commercial field for the first time after three years of residential air conditioning.

Included in the 1954 line will be a packaged evaporative condenser and compressor in 2, 3, and 5-ton sizes; water-cooled condensers of 2 and 3-ton capacities; and an evaporative (Concluded on Back Page, Column 3)

IN THIS ISSUE

Firm Offers To Rent Freezers for \$5 a Month To Get Folks Used To Them . . .	2
Plastics In Refrigerators . . .	10
40-Year-Old Frame House Gets Year-Round Air Conditioning . . .	12
Steffens Offers Guide for Application of Automatic Controls To Air Moving Systems . . .	15
Freezer Owners Reveal Their Thoughts on Freezers . . .	18
Four Methods of Water Conservation Dealer Letter Says, "If We Can't Service It, We Won't Sell It" . . .	25
Operation and Servicing of Air-to-Air Heat Pump . . .	26
Open Case Merchandising Techniques . . .	28
Cooling, Dehumidifying Controls Theory Discussed . . .	30
Hermetically Sealed Terminals . . .	31
How a House Organ Builds Sales . . .	32
Current Literature . . .	20
What's New . . .	22
Slants on Service . . .	23
Patents . . .	34
Government Contracts . . .	34

Starting a Good Habit

Chicago Firm Offers To Rent Freezers for \$5 a Month To Get Folks Used to Them

CHICAGO—An unusual new program offering "frozen food living for rent" was introduced Christmas Day by Polk Bros. Deepfreeze home freezers are made available for a \$5 monthly rental under what may be the nation's first home freezer rental program.

"Our program will enable thousands of families to enjoy for the first time the everyday advantages of frozen food living," said Sol Polk, president. "They can have the benefits of greater variety and better quality in foods, as well as savings in time and effort."

Freezer rentals, Polk added, can be instrumental in "making the freezer a habit" and overcoming the attitude that the appliance is a luxury.

Polk said his plan would be a boost for the food processing industry as well as the consumers, since it will add thousands of cubic feet of zero temperature storage space in homes. In letters to frozen food processors, Polk said, in part:

"The answer to limited public acceptance of frozen foods is expanded home storage facilities. If Mrs. Homemaker could store more frozen foods, if she could use a home freezer at lower cost, the consumption of frozen foods would increase.

"We would appreciate your cooperation in making the new age of freezer living a reality and thus participate in this vitally important

crusade for the improvement of the nation's physical health and well-being."

The freezers which the firm offers for rent are 7-cu. ft. home freezers made by Deepfreeze Home Appliances. Holding about 250 lbs. of frozen food and measuring about 37 by 38 by 27 in., the units are of a size expected to appeal to apartment dwellers as well as homeowners.

The rented freezers are available in Chicago and within 25 miles of the city. The minimum rental period is three months to assure the customer an ample trial of the freezer's conveniences. There is a fee of \$5 a month plus \$10 for delivery and pickup. Freezer renters will purchase the frozen foods at their favorite markets, since Polk Bros. is exclusively a retail appliance concern.

There is no obligation to buy, but any renter who decides to do so will receive full credit of rental payments toward purchase.

Polk Bros. opened the freezer rental promotion with heavy emphasis in television, radio, and newspaper advertising during the holidays.

New Thor Distributor

CHICAGO—Thor Corp. has announced the appointment of a new distributor, Lenihan Distributing Co., Seattle. This firm replaces Seattle Hardware Co.

Amana Appoints Sprague Chicago Area Sales Mgr.

AMANA, Iowa — Appointment of VerLynn Sprague as Chicago regional sales manager of Amana Refrigeration, Inc. was announced recently by E. L. Hinchliff, sales manager.



VerLynn Sprague

Sprague succeeds Roy K. Thorpe, who has resigned. He will cover Michigan, Illinois, Wisconsin, northern Indiana, and eastern Iowa. For the past six years, Sprague was director of merchandising for Gourfain-Cobb & Associates, Chicago advertising agency, and for the last 18 months has been merchandising consultant to Amana. He attended Syracuse university and Hartwick college.

Philadelphia Electrical Assn. Elects Harris Pres.

PHILADELPHIA — The board of governors of The Electrical Association of Philadelphia recently elected the following officers to serve in 1954:

President, J. B. Harris, Jr., president, Rumsey Electric Co.; Vice President, William E. Rubert, president, Union Electric Contracting Co.; Treasurer, Philip H. Ward, Jr., president, Ward Electric Co.; and Secretary, Stanley M. Cameron, vice president, Howard P. Foley Co.

Hotpoint Opens New Year-Round Showroom In the Merchandise Mart, Doubles Space

CHICAGO — One of the most modern appliance showrooms in the Chicago area, utilizing advanced design and display techniques such as sliding glass panels, raised brick floors, and column and island displays, was formally opened on Jan. 3 during the January Home Furnishings Show in the Merchandise Mart by Hotpoint Co.

The old showroom was located in the American Furniture Mart and the old district offices were located in the Merchandise Mart.

The new showroom (room 1120) covers some 5,000 sq. ft. of floor space in the Merchandise Mart, approximately twice as large as the previous showroom space. Unlike the old showroom, it will be opened all year 'round and house the company's complete Chicago district office and personnel.

Measuring 40 ft. in width, the entire showroom front is glass. Glass panels slide into each other to permit direct entrance into the showroom, giving an inside-outside feeling to the visitor. Use of this glass technique permits the entire showroom to be seen from the outside at all times.

Just inside the showroom is a raised brick floor. It is designed to display and set-off Hotpoint's new "Customline" electric range units. The oven unit is set right into the brick wall which adorns the small display.

To the north of the Customline range display is a one wall kitchen which uses the newest design interior schemes. On the back of the marble wall are custom kitchen cabinets with flush overhead ceiling lighting. Work surface tops are a rich looking tile. All other appointments are of an ultra-modern nature.

On the south wall is a full line display of electric ranges, using the "Niche" side slant feature. Instead of the ranges being lined up as soldiers in a single straight line, and using a great amount of space, they are set at right angles to each other, in the form of a zig-zag pattern.

Adjacent to the range display on the south wall is an area devoted to the full line display of home laundry equipment. Demonstrations of the washer, dryer, and ironer can be given.

In the rear of the south wall is a complete all-electric "L" shaped kitchen. It features a combination kitchen and home laundry. Appliance models can be used in this kitchen for demonstration purposes.

One section in the rear of the north wall is devoted to a display of the complete refrigerator and food freezer line. Refrigerator models are distinguished from each other by floor to ceiling tubing which creates a paneled effect. The food freezers are grouped back to back in an island display.

One unique feature of the new showroom is the use of suspended metal channels. These channels hold the room air conditioner display units suspended a foot or two from the ground. This is all that holds the air conditioner unit in place. It can be seen from all sides, giving it a third dimension effect. Panels for advertising copy can be utilized either above the unit or below it.

Another design used in the showroom is that of a column display which holds three 30-in. electric ranges. This display takes less room than using two 39-in. ranges. Back-grounds are used to advertise features and conveniences of the line.

Adequate displaying of a complete 1954 dishwasher line was accomplished through the use of an island display. The back of the island dishwasher display is left open to show the salesmen and customers the ease of operations and installations. All five models of Hotpoint's 1954 line will be displayed here.

In the back of the showroom are the new Chicago district offices of Hotpoint. They are so designed to allow the executive offices to be immediately enlarged for large dealer or distributor gatherings. This area also provides a lounging room for guests. The south wall of the offices are completely lighted giving the effect of looking outside.

The color scheme of the showroom was chosen to set-off the appliances in such a way so as to allow better product identification. The showroom was designed to allow maximum traffic flow with minimum congestion.

Webster Elected President Of Washington NARDA

WASHINGTON, D. C.—George C. Webster, John G. Webster & Sons, is the newly-elected president of the Washington Appliance & Radio-TV Dealers Association, local chapter of the National Appliance & Radio-TV Dealers Association.

Other officers elected at a recent meeting include: Vice president, David Smith, Smith's, Inc.; treasurer, Robert T. Dowd, Dowd's Radio & Electric Co.; secretary, William A. Berger, Big 10, Inc.

The group also elected a board of directors and took action to incorporate.

Activities will be directed by committee chairmen, and an aggressive program has been scheduled. David Smith is chairman of the membership committee which will solicit memberships in both the local and national groups; the legislative committee will work in behalf of fair trade; the advertising committee will work on the classified-phone-directory listings problem; the service committee has been assigned investigation into TV-service bait advertising in cooperation with the efforts of the local Better Business Bureau.

Dealer-wholesaler relations, wiring codes, merchandising, sales training, and sales meetings are other committee allocations of the group efforts.

Monthly meetings are planned for the third Tuesday of each month.

Allin Names Hollingsworth, Davis Sales Representatives

CHICAGO — Allin Mfg. Co. here has recently appointed Russell E. Davis of St. Louis to represent the company in southwestern Indiana, western Kentucky, southern Illinois, and eastern and southern Missouri.

The company also appointed Richard D. Hollingsworth of Cleveland to cover Ohio, Michigan, and eastern and northern Indiana.

N. Y. Landlords Get Feb. 15 Deadline on Defective Units

NEW YORK CITY—Under a new policy announced recently by Joseph D. McGoldrick, State Rent Administrator, landlords must replace condemned water-cooled gas refrigerators with workable units of a different type or face a reduction in rent.

Last September, the Department of Health launched a city-wide investigation of water-cooled gas refrigerators. Of the estimated 40,000 units of this kind in the city, 7,000 have thus far been condemned as unsafe. These refrigerators have not been manufactured since 1931 and thus all are at least 22 years old, according to a department spokesman.

McGoldrick said he believes that a water-cooled gas refrigerator found so unsafe it had to be condemned "cannot be adequately repaired so as to be made safe over any extended period of time. In the future, no repair of this condemned equipment will be recognized by the Temporary State Housing Rent Commission."

Landlords have until Feb. 15, 1954, to replace condemned units. "Of course," McGoldrick added, "the landlord has the obligation to maintain proper refrigeration service between now and that date."

Wolverine Moves Robertson, Robb to New York Office

NEW YORK CITY—Effective Jan. 1, 1954 Sam Robb, formerly of the Wolverine Tube general sales office in Detroit, will be located at Wolverine headquarters at 60 E. 42nd St., here, the company announced recently.

W. G. Robertson, also formerly of the general sales office in Detroit, will carry on his activities from the Rochester, N. Y. office in the Sibley Tower building.

Prepare Now
for the
Profitable
Jobs...

with the expanded line of

Curtis

AIR CONDITIONING AND REFRIGERATION EQUIPMENT

This complete line of CURTIS equipment assures highest possible efficiency, dependability and quality... at a price that is profitable for you.

Not only will you be equipped to handle any installation but you will be selling equipment that is accepted the world over, and that is proven by 100 years of successful manufacturing experience.

To help you sell more CURTIS Air Conditioning and Refrigeration equipment, it is nationally advertised in Saturday Evening Post, Time and Newsweek, plus many other national magazines.

For immediate information on how to make your operation more profitable, mail this coupon for details of how you may secure a direct factory franchise:

CURTIS REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company

1912 Kienlen Avenue, St. Louis 20, Missouri

I am interested in direct factory franchise. Send complete details.

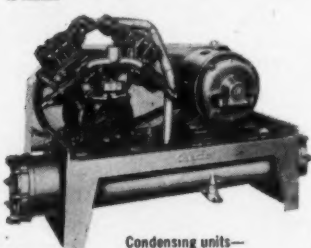
Company Name.....

Street.....

City.....Zone.....State.....

Signed.....

Evaporative Condensers, Cooling Towers and Air Handling units to match



Condensing units—through 50 tons



New 1954 Curtis Room Air Conditioner in three popular sizes.

Residential cooling and heating units

Packaged Air Conditioners—2, 3, 5, 7 1/2, 10 and 15 tons



CURTIS REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company
1912 Kienlen Ave. — St. Louis 20, Mo.

What's behind a tradition?

Hat tipping ranges from complete doffing to a casual flick of the brim. It's a masculine acknowledgment of respect for the ladies which traces back to the days when "amour" was often concealed beneath armor. A knight in a medieval suit of armor was unrecognizable with his visor down. When approaching a lady of gentle breeding or anyone to whom the knight wished to show friendly intentions, he would raise the visor of his armor. Today's version of this gesture is the conventional tipping of the hat.

being close to users' needs resulted in

COPELAMETIC

THE *Accessible* HERMETIC

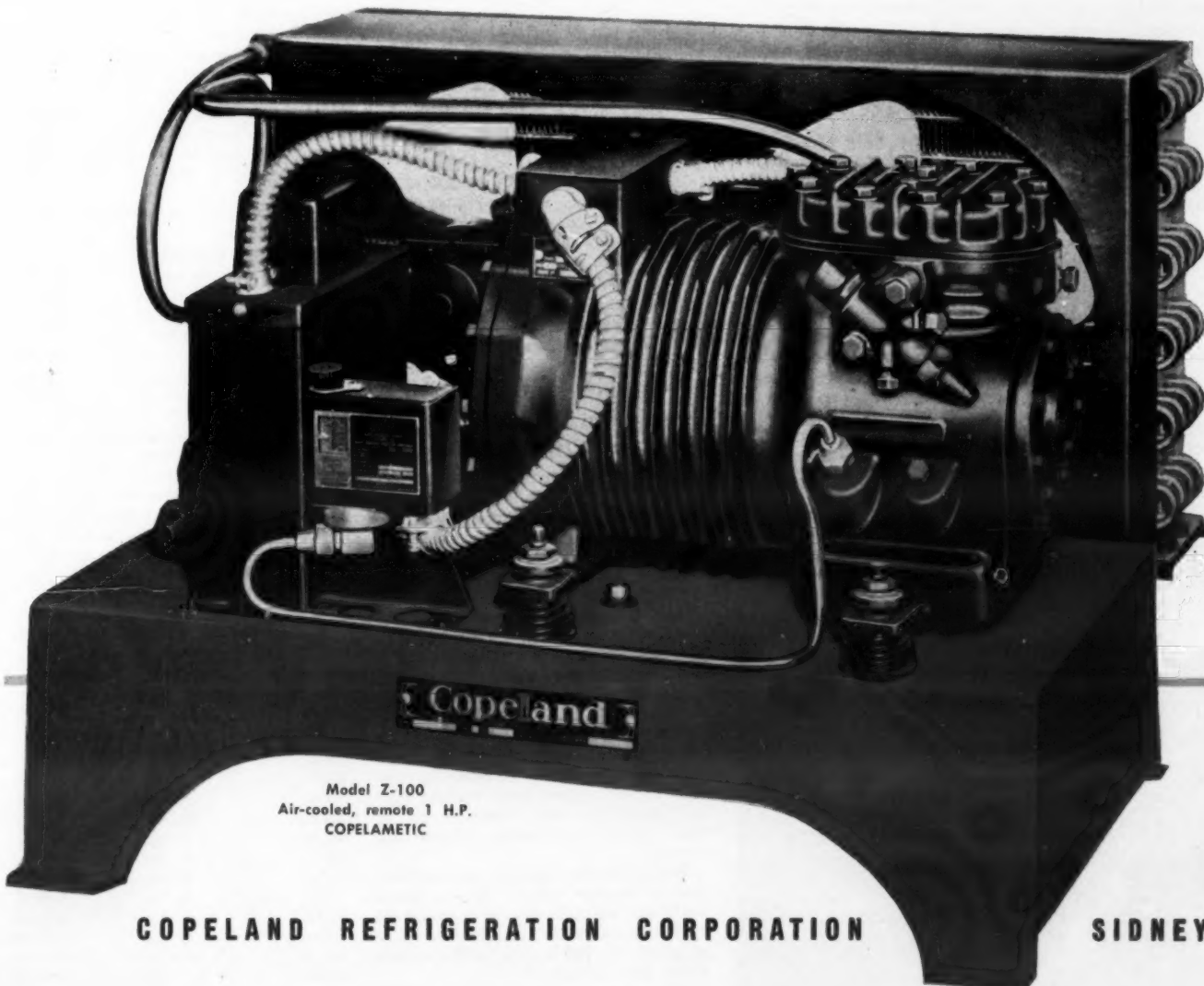
A good friend came up to us during the Show and said, "Gee, it's like old home week when I visit the Copeland booth. You look around and see the same guys you've done business with for years. It's great to deal with fellows you can call by their first names."

Being that close to the customer means a lot to us and to you. A basic knowledge of refrigeration needs led to the development of COPELAMETIC, the *accessible* hermetic. Copeland engineers knew that eliminating belts, seals and manual oiling would almost do away with service calls. But, realistic engineering prompted them to make it accessible. Result . . . the first hermetic that could

be serviced on the spot when the rare need arose. Copelametic set the standard that others follow.

Compact Copelametic is quiet-running and highly efficient as capacity figures show. You can get models for remote or self-contained use. Air-cooled models range from 1/6 H. P. through 3 H. P., water-cooled from 1/3 H. P. through 7 1/2 H. P. There are sizes in air-water combinations through 3 H. P.

Copeland also manufactures belt-driven units through 7 1/2 H. P. and welded-in hermetics in several sizes. Write for specifications and capacities.



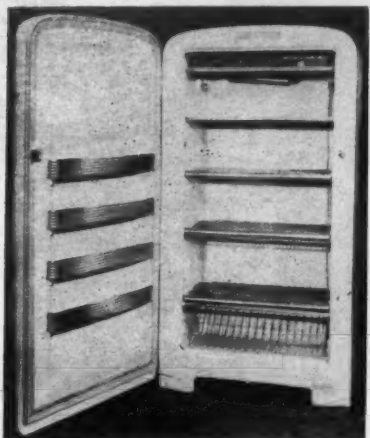
Model Z-100
Air-cooled, remote 1 H.P.
COPELAMETIC

Copeland
DEPENDABLE *Electric* REFRIGERATION

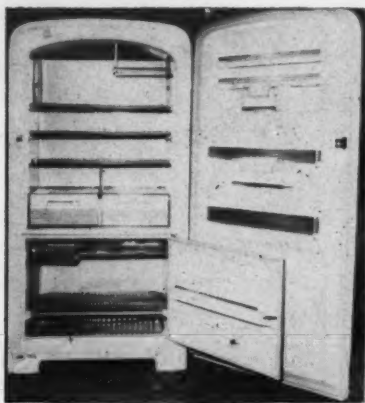
REFRIGERATION UNITS (OPEN TYPE AND COPELAMETIC) WATER COOLERS

COPELAND REFRIGERATION CORPORATION

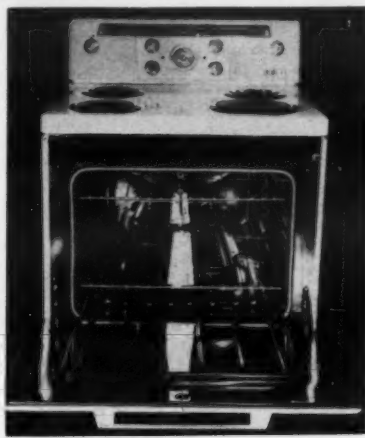
SIDNEY, OHIO



ADMIRAL 11-CU. FT. UPRIGHT freezer, model 11DUF, has been completely redesigned with five refrigerated shelves, which are vented to provide circulating cold.



THIS NEW "UP-SIDE DOWN" Admiral refrigerator-freezer combination, model 14D17, has a capacity of 14.1 cu. ft., including 4.3 cu. ft. of sub-zero freezer space, yet is only 2½ in. taller and wider than the company's two-door Dual-Temp.



DELUXE 30-IN. Admiral electric range, model 3DH12, contains a 23-in. wide oven. It has a recessed broiling unit, four surface units on divided top.

Admiral Shows '54 Appliance Lines--

(Concluded from Page 1, Column 3) with the company continuing to increase its share of the market in each line.

Siragusa predicted that the industry will sell 1,500,000 room air conditioners in 1954. Next to air conditioners, he expects electric ranges to show the largest percentage growth for the company this year.

The economy of mixed carload shipping was pointed out by Siragusa, who said that a mixed car of any combination of the five appliances which Admiral produces can now be shipped from Galesburg to any dealer at a substantial saving in distribution costs.

"The appliance industry is a growing industry with the largest potential of any in the consumer durable goods field," he said. "Only one out of four electrified homes has an electric range. Freezers have been sold to less than one-seventh of American families. Within five years either a freezer or a combination freezer-refrigerator will be in service in 50% of American homes."

Seymour Mintz, vice president of advertising for Admiral, told the distributors that Admiral dealers who purchase two mixed carloads of refrigerators, freezers, ranges, and air conditioners during the first quarter of 1954 will be given a free 1954

Packard Clipper two-door sedan with white wall tires, heater, and defroster.

Dealers ordering a single mixed carload will be given a mink stole for their wives or lady friends, Mintz said. With each stole will be given a guaranteed prepaid \$1,500 insurance policy, paying the owner that amount in cash if the fur is lost or stolen.

Mintz described the offer as the largest sales incentive campaign of its type ever conducted.

The new line of Admiral refrigerators consists of 11 models, including two "up-side down" combination refrigerator-freezers with 122 and 150-lb. capacity freezer chests at the bottom. Two 8-cu. ft. units were shown for the first time.

The range line consists of 10 basic models highlighted again by an auto-

matic basting rotary roaster. It includes six 40-in., three 30-in., and two 20-in. ranges.

Seven home freezers, including an 11-cu. ft. upright model which is a matching twin to Admiral's 11-cu. ft. refrigerators and a new 18-cu. ft. model, are offered for 1954. They include 11, 14, and 18-cu. ft. uprights, and 13, 17, and 20-cu. ft. chest models.

Admiral's room air conditioners for 1954 again are highlighted by compact "hideaway" design permitting draperies to be drawn over them. An innovation is the use of clear-view polystyrene side panels on both sides of the unit to admit additional light when installed.

13-Model Room Cooler Line

The new line has 13 models in ½, ¾, 1, and 1-ton sizes. Some provide heating with the adjustment of one control. They can be installed in conventional as well as casement windows, or through the wall. A protective exterior cover is given free with each unit.

Glacier Blue porcelain enamel cabinet liners and similarly colored door interiors are featured on every refrigerator model. All but one of the 1954 Admiral refrigerators contains a butter keeper, while six also have a newly-added cheese keeper in the door which holds up to 2-lbs. of cheese at the proper serving temperature.

Full-width freezer chest with self-closing doors are in every model. In addition, the new line is highlighted by increased use of door shelves, roll-out shelves on nylon bearings, and deluxe gold color trays.

Speedy automatic pushbutton defrosting, originated by Admiral engineers, is available on all size models. This modern defrosting system enables the homemaker to defrost in a few minutes whenever necessary.

2-Door Refrigerator Leads In Sales

The company's two-door 12-cu. ft. "Dual-Temp" freezer-refrigerator combination, (model 12D15), introduced for the first time in January, 1952, already has surpassed its single-door counterpart in sales. This deluxe model keeps uncovered foods fresh far longer than do conventional refrigerators and never requires defrosting, Admiral says.

The smaller "up-side down" model (12D13) has freezer capacity for the storage of 122 lbs. of frozen foods at the bottom plus humid cold food storage capacity equivalent to a 9-cu. ft. conventional refrigerator.

The larger inverted model (14D17) will fit into practically every kitchen, yet has a huge sub-zero chest large enough to hold such items as a 25-lb. turkey, a whole leg of lamb, a roast of beef, or full cases of frozen fruit juice or vegetables.

The various models and their suggested list prices are as follows:

7D3	7.3 cu. ft.	\$199.95
7D5	7.3 cu. ft.	299.95
8D7	8.0 cu. ft.	249.95
8D9	8.0 cu. ft.	269.95
9D7	9.5 cu. ft.	299.95
9D9	9.5 cu. ft.	329.95
11D7	11.7 cu. ft.	369.95
11D9	11.7 cu. ft.	399.95
12D13	11.4 cu. ft.	499.95
12D15	12.3 cu. ft.	549.95
14D17	14.1 cu. ft.	599.95

Every Admiral range features appliance outlets, signal lights, and seamless black porcelain enamel oven liners. Speedy hot spot surface units are standard on models over \$200.

'Flex-O-Heat' Switches

Dial Any Degree of Heat

All deluxe models utilize the company's exclusive "Flex-O-Heat" switches which permit the dialing of any degree of heat, while standard ranges have seven-speed rotary switches. All switches are located on the back housing.

Two 20-in. ranges have oversize ovens with seven-minute preheating, while one 30-in. range (3DH12) has a 23-in. wide oven, described as the largest oven in any 30-in. range on the market.

Other features are adjustable broiler racks which can be raised or lowered by moving a lever to the right or left, a new oven venting system assuring even distribution of heat, and completely automatic timers.

The automatic basting and turning rotary roaster which cooks juices back into meat and fowl is standard with models 3DH12 and 4DH15. It is optional at \$25 extra with models 4DL5 and 4DL14.

The top deluxe 40-in. range, 4DH15,

contains every feature as well as a second oven that enables one to broil and roast at the same time.

Suggested list prices on the various models are as follows:

2DH3	\$169.95
2DH4	179.95
3DH8	199.95
3DH11	239.95
3DH12	264.95
4DL5	199.95
4DL8	249.95
4DL14	339.95
4DH5	329.95
4DH8	399.95
4DH15	469.95

Admiral's upright freezers feature vented shelves which permit the cold air to circulate automatically, dry wall construction to eliminate sweating, sub-zero quick freezing shelves and gold color ice trays.

Condenser Located In Outer Wall of Freezer

In all Admiral home freezers the condenser has been placed in the outer wall to prevent sweating. In addition, condenser coils have been installed on the bottom of the chest freezers to prevent moisture from collecting under them.

"The company's 11-cu. ft. upright freezer, which has a capacity of 385 lbs. of frozen food, is the only model of its size being offered with five refrigerated shelves," William B. Doyle, freezer sales manager, said. On the exterior nameplate of this unit is a red signal light which goes out to warn the homemaker whenever the freezer is not operating.

The 11DUF also contains an auxiliary sorting shelf located under the fourth shelf from the top, which can be pulled out to provide a working surface when loading or unloading food. Door shelves, four gold color ice trays, full temperature control, and a wire basket are other features.

The new Admiral 18-cu. ft. upright freezer is only slightly larger than a refrigerator, yet holds one-third of a ton of frozen food. It has 3 in. of insulation in the walls and 4 in. on the bottom. This model contains every deluxe feature, yet carries a suggested list price of only \$549.95.

Uprights Feature Vented Shelves

The upright freezers have an entirely new type of refrigerated shelf. Made of rigid, lifetime steel with gold trim, it contains vents providing circulating cold. Cold air being heavier than warm air, it settles to the bottom of the freezer and forces the warmer air to the top. On reaching the top, the warm air is chilled, then begins to settle. This perpetual chilling creates uniform air circulation, Doyle said.

Chest freezers contain a separate dual-freeze compartment utilizing extra coils to provide speedy, sharp freezing of fresh foods. Other features are counter-balanced doors with locks, safety handles, and Glacier Blue interiors.

Every purchaser of an Admiral 1954 freezer is given a five-year food protection guaranty. Each power unit is covered by a five-year protection plan.

Suggested list prices on freezers are as follows:

Uprights		
11DUF	11.49 cu. ft.	\$399.95
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13DHFS	13.2 cu. ft.	369.95
13DHF	13.2 cu. ft.	429.95
17DHF	16.8 cu. ft.	479.95
20DHF	20.0 cu. ft.	549.95

Admiral's new air conditioners feature 18 different dial settings to provide 18 different kinds of weather. Some models can remove up to 84 pints of moisture a day from the air.

An innovation is the comfortrol thermostat, which assures even temperatures for heating and cooling. A permanent cleanable filter is provided.

A new ¾-ton model is offered in 115 volt and 230 volt power systems with all the cooling features for \$299.95.

Suggested list prices for air conditioner models are as follows:

33D3	¾ hp.	\$199.95
50D5	¾ hp.	279.95
50D9	¾ hp.	289.95
75D6S	¾ hp.	299.95
75D5	¾ hp.	379.95
75D7S	¾ hp.	299.95
75D7	¾ hp.	379.95
75D8	¾ hp.	379.95
75D9	¾ hp.	419.95
75D11	¾ hp.	419.95
100D7	1 hp.	449.95
100D8	1 hp.	449.95
100D11	1 hp.	489.95

take a look at ETERNITY

..... that's just what you see in America's oldest living timber—the California redwood. From the heart of these giants comes the redwood from which Marley fabricates Aquatower® filling. We have been building water cooling towers with redwood filling for more than thirty years. Our experience proves it best!

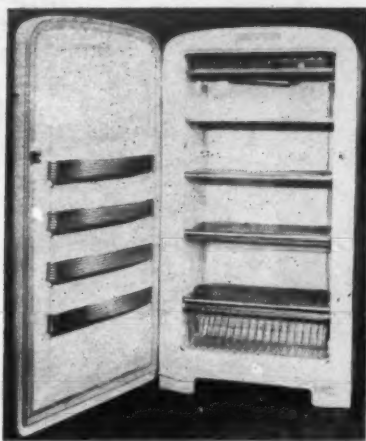
Of the many thousands of Aquatowers in service, not one filling failure has ever been reported. This excellent service record, coupled with the known facts concerning the ability of redwood to withstand the ravages of weather and time, proves there is no better material for cooling tower filling. Redwood filling needs no chemical preservatives that may leach out and reduce cooling system efficiency by coating piping and condensers.

Marley Aquatower filling design, too, has played a major role in this tremendously successful service record. This exclusive design permits the filling to expand and shrink without cracking, warping or sagging. It assures complete water breakup, essential in providing condenser cooling water of the desired temperature.

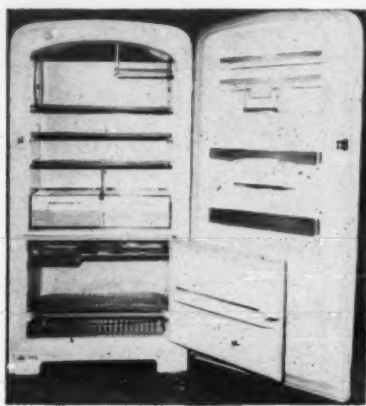
Nailess redwood filling is just one of the many features that have made the Aquatower the most popular cooling tower in the 2- to 60-ton range. For full information on the many outstanding features of 1954 Aquatowers, write today for bulletin AQ-54, or contact the Marley representative in any one of fifty major cities.

*Registered Trademark

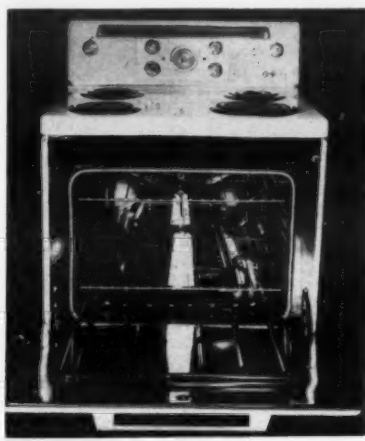




ADMIRAL 11-CU. FT. UPRIGHT freezer, model 11DUF, has been completely redesigned with five refrigerated shelves, which are vented to provide circulating cold.



THIS NEW "UP-SIDE DOWN" Admiral refrigerator-freezer combination, model 14D17, has a capacity of 14.1 cu. ft., including 4.3 cu. ft. of sub-zero freezer space, yet is only 2 1/2 in. taller and wider than the company's two-door Dual-Temp.



DELUXE 30-IN. Admiral electric range, model 3DH12, contains a 23-in. wide oven. It has a recessed broiling unit, four surface units on divided top.

Admiral Shows '54 Appliance Lines--

(Concluded from Page 1, Column 3) with the company continuing to increase its share of the market in each line.

Siragusa predicted that the industry will sell 1,500,000 room air conditioners in 1954. Next to air conditioners, he expects electric ranges to show the largest percentage growth for the company this year.

The economy of mixed carload shipping was pointed out by Siragusa, who said that a mixed car of any combination of the five appliances which Admiral produces can now be shipped from Galesburg to any dealer at a substantial saving in distribution costs.

"The appliance industry is a growing industry with the largest potential of any in the consumer durable goods field," he said. "Only one out of four electrified homes has an electric range. Freezers have been sold to less than one-seventh of American families. Within five years either a freezer or a combination freezer-refrigerator will be in service in 50% of American homes."

Seymour Mintz, vice president of advertising for Admiral, told the distributors that Admiral dealers who purchase two mixed carloads of refrigerators, freezers, ranges, and air conditioners during the first quarter of 1954 will be given a free 1954

Packard Clipper two-door sedan with white wall tires, heater, and defroster.

Dealers ordering a single mixed carload will be given a mink stole for their wives or lady friends, Mintz said. With each stole will be given a guaranteed prepaid \$1,500 insurance policy, paying the owner that amount in cash if the fur is lost or stolen.

Mintz described the offer as the largest sales incentive campaign of its type ever conducted.

The new line of Admiral refrigerators consists of 11 models, including two "up-side down" combination refrigerator-freezers with 122 and 150-lb. capacity freezer chests at the bottom. Two 8-cu. ft. units were shown for the first time.

The range line consists of 10 basic models highlighted again by an auto-

matic basting rotary roaster. It includes six 40-in., three 30-in., and two 20-in. ranges.

Seven home freezers, including an 11-cu. ft. upright model which is a matching twin to Admiral's 11-cu. ft. refrigerators and a new 18-cu. ft. model, are offered for 1954. They include 11, 14, and 18-cu. ft. uprights, and 13, 17, and 20-cu. ft. chest models.

Admiral's room air conditioners for 1954 again are highlighted by compact "hideaway" design permitting draperies to be drawn over them. An innovation is the use of clear-view polystyrene side panels on both sides of the unit to admit additional light when installed.

13-Model Room Cooler Line

The new line has 13 models in 1/2, 3/4, 1, and 1-ton sizes. Some provide heating with the adjustment of one control. They can be installed in conventional as well as casement windows, or through the wall. A protective exterior cover is given free with each unit.

Glacier Blue porcelain enamel cabinet liners and similarly colored door interiors are featured on every refrigerator model. All but one of the 1954 Admiral refrigerators contains a butter keeper, while six also have a newly-added cheese keeper in the door which holds up to 2-lbs. of cheese at the proper serving temperature.

Full-width freezer chest with self-closing doors are in every model. In addition, the new line is highlighted by increased use of door shelves, roll-out shelves on nylon bearings, and deluxe gold color trays.

Speedy automatic pushbutton defrosting, originated by Admiral engineers, is available on all size models. This modern defrosting system enables the homemaker to defrost in a few minutes whenever necessary.

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The company's two-door 12-cu. ft. "Dual-Temp" freezer-refrigerator combination, (model 12D15), introduced for the first time in January, 1952, already has surpassed its single-door counterpart in sales. This deluxe model keeps uncovered foods fresh far longer than do conventional refrigerators and never requires defrosting, Admiral says.

The smaller "up-side down" model (12D13) has freezer capacity for the storage of 122 lbs. of frozen foods at the bottom plus humid cold food storage capacity equivalent to a 9-cu. ft. conventional refrigerator.

The larger inverted model (14D17) will fit into practically every kitchen, yet has a huge sub-zero chest large enough to hold such items as a 25-lb. turkey, a whole leg of lamb, a roast of beef, or full cases of frozen fruit juice or vegetables.

The various models and their suggested list prices are as follows:

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Every Admiral range features appliance outlets, signal lights, and seamless porcelain enamel oven liners. Speedy hot spot surface units are standard on models over \$200.

'Flex-O-Heat' Switches Dial Any Degree of Heat

All deluxe models utilize the company's exclusive "Flex-O-Heat" switches which permit the dialing of any degree of heat, while standard ranges have seven-speed rotary switches. All switches are located on the back housing.

Two 20-in. ranges have oversize ovens with seven-minute preheating, while one 30-in. range (3DH12) has a 23-in. wide oven, described as the largest oven in any 30-in. range on the market.

Other features are adjustable broiler racks which can be raised or lowered by moving a lever to the right or left, a new oven venting system assuring even distribution of heat, and completely automatic timers.

The automatic basting and turning rotary roaster which cooks juices back into meat and fowl is standard with models 3DH12 and 4DH15. It is optional at \$25 extra with models 4DL5 and 4DL14.

The top deluxe 40-in. range, 4DH15,

contains every feature as well as a second oven that enables one to broil and roast at the same time.

Suggested list prices on the various models are as follows:

2DH3	\$169.95
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3DH8	199.95
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Admiral's upright freezers feature vented shelves which permit the cold air to circulate automatically, dry wall construction to eliminate sweating, sub-zero quick freezing shelves and gold color ice trays.

Condenser Located In Outer Wall of Freezer

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Every purchaser of an Admiral 1954 freezer is given a five-year food protection guaranty. Each power unit is covered by a five-year protection plan.

Suggested list prices on freezers are as follows:

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A new 3/4-ton model is offered in 115 volt and 230 volt power systems with all the cooling features for \$299.95.

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50D9	1/2 hp.	289.95
75D5S	3/4 hp.	299.95
75D5	3/4 hp.	379.95
75D7S	3/4 hp.	299.95
75D7	3/4 hp.	379.95
75D8	3/4 hp.	379.95
75D9	3/4 hp.	419.95
75D11	3/4 hp.	419.95
100D7	1 hp.	449.95
100D8	1 hp.	449.95
100D11	1 hp.	489.95

take a look at ETERNITY

..... that's just what you see in America's oldest living timber—the California redwood. From the heart of these giants comes the redwood from which Marley fabricates Aquatower* filling. We have been building water cooling towers with redwood filling for more than thirty years. Our experience proves it best!

Of the many thousands of Aquatowers in service, not one filling failure has ever been reported. This excellent service record, coupled with the known facts concerning the ability of redwood to withstand the ravages of weather and time, proves there is no better material for cooling tower filling. Redwood filling needs no chemical preservatives that may leach out and reduce cooling system efficiency by coating piping and condensers.

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*Registered Trademark



**REVOLUTIONARY
NEW DESIGN!**

**SENSATIONAL NEW
LOW PRICES!**

IN **3** MIGHTY STEPS

Kelvinator

puts Kelvinator retailers
in charge of the
freezer business!

KELVINATOR firmly believes that established appliance retailers should dominate the freezer business. Although total retail freezer sales have remained fairly constant in recent years, the share of this market being sold by department stores, furniture stores and appliance dealers has steadily declined.

In 1954, Kelvinator has a program to put its dealers back in the freezer business on a profitable volume basis and here's how:

Step 1—Revolutionary New Design! Imagine an 18 cu. ft. upright freezer, the same height and width as a Kelvinator 11 cu. ft. refrigerator! Kelvinator did it! Another space-saving upright and 3 chest-types have been space-engineered, too.

Step 2—Sensational New Low Prices! Imagine freezer prices up to \$100 less than comparable 1953 models! Kelvinator did it! And there's a low, low priced traffic-building model, too.

Step 3—A Short Complete New Line! Imagine only 5 models . . . two uprights and three chest-types . . . from 7's to 18's . . . from \$249.95 to \$499.95 . . . for low inventory investment and fast turnover! Kelvinator did it! Sales-making features and outstanding beauty, too.

Kelvinator's 1954 Freezers . . . created especially to honor Kelvinator's 40th Anniversary . . . are an amazing engineering achievement. The revolutionary new space-saving designs . . . plus sensational new low prices, plus breath-taking new beauty . . . plus deluxe sales features . . . all wrapped up in a 5 model line . . . will put you back in the freezer business in a big way . . . a profitable way.

See your Kelvinator Distributor or Zone Office today for the complete details.

Be sure to visit Kelvinator
IN SPACE 515A,
American Furniture Mart,
Chicago, January 4-15

**A SHORT
COMPLETE NEW LINE!**



Upright Model FR-18V provides a full 18 cu. ft. capacity in a cabinet no wider, no taller than an 11 cu. ft. refrigerator. Two upright models match perfectly with the new 1954 Kelvinator refrigerators.

Three chest-type models offer the same compactness. Model FR-15D, with full 15 cu. ft. capacity, has a cabinet actually no larger than previous 13's. Model FR-7S is a traffic-builder priced right down with the lowest.

Kelvinator

Division of Nash-Kelvinator Corporation, Detroit 32, Michigan

THE MOST VALUABLE FRANCHISE
IN THE APPLIANCE INDUSTRY

ELECTRIC REFRIGERATORS • ELECTRIC RANGES • HOME FREEZERS • WASHERS AND DRYERS • IRONERS • KITCHEN CABINETS AND SINKS
ROOM AIR CONDITIONERS • ELECTRIC WATER HEATERS • GARBAGE DISPOSERS • ELECTRIC DEHUMIDIFIERS • COMMERCIAL REFRIGERATION

★ Watch for Kelvinator on TV with "Omnibus." Consult your local paper for time and channel.

Washington Utility's Dealer-Assistance Program Helps Boost Appliance Volume

SPOKANE, Wash. — If Inland Empire dealers didn't sell a lot of electric ranges and water heaters during the latter part of last year, it wasn't for lack of help from Washington Water Power Co.

The utility reorganized its sales promotion program and conducted an area-wide campaign designed to help dealers tap the market of at least 15,000 non-users of these products—"a golden market in excess of \$8,000,000."

Under the dealer-assistance program, a 12-week sales training course was conducted for retailers and their sales personnel; WWP representatives called on customers to develop them into actual prospects for ranges and water heaters; and general promotion was carried on.

As qualified prospects developed, utility personnel referred them to dealers for sale of the equipment. Where a customer expressed a preference to do business with a particular dealer, that dealer was informed for his follow-up.

The company also promoted cooking demonstrations slanted toward ownership. WWP home service advisors conducted these selected-group meetings. Cooperating dealers were urged to offer door prizes and furnish food for the events.

Another WWP assistance was in the form of direct mailings and gift offers to prospects. Additional advertising was used to help the overall promotion.

Close contact was maintained

between utility personnel and the Inland Empire Electrical League. The latter called distributors and their sales counselors to special meetings to inform them of program features and enlist their support in cooperation with their franchised dealers.

Also, the league maintained a flow of ideas pertinent to display suggestions, sales ideas, and general information to help sell the non-user market, and informed other industry members on how they could cooperate.

The promotion was part of an energetic program being conducted by Washington Water Power for the promotion of additional residential, commercial, and industrial business.

Wellons Elected Head of New N. C. Dealer Group

DUNN, N. C.—Final organization procedures including election of officers highlighted a recent meeting of appliance retailers in this area.

William S. Wellons, Wellons Mercantile, Inc., Dunn, was elected president; Hallie Bain, M & B Radio Sales & Service, Benson, Vice President; Hugh Sills, L & S Hardware Co., Dunn, secretary-treasurer.

Robert Justis, director of the National Appliance & Radio-TV Dealers Association from Newport, Del., was the speaker of the evening, and assisted with organizational activities. Affiliation with NARDA is a future project of the group.

Burbank Plant Dedicated By General Controls Co. For Appliance Div.

BURBANK, Calif. — A large new plant which will be used entirely for expanded manufacturing of appliance controls was dedicated recently in Burbank by General Controls Co.

A leading feature of the two-day plant dedication and open house ceremony was a 240-ft. panoramic exhibit showing, with graphic exhibits and working appliances, the numerous functions automatic controls have come to play in the American way of living since General Controls Co. was founded 23 years ago.

The 120,000-sq. ft. plant was designed and built especially for the Grayson-Greenmyer Appliance Controls Div. of General Controls, and is located just across the Glendale-Burbank city line from the company's main plant and national headquarters in Glendale. Space has been provided in the design of the new plant for approximately 1,000 employees.

Company officials on hand for the ceremonies included A. W. Ray, executive vice president; John F. Ray, vice president in charge of sales; Richard A. Ray, vice president in charge of manufacturing; I. H. Nye, treasurer; and John H. Grayson, pioneer designer and manufacturer of automatic controls, who has been in charge of research and development on appliance controls since the Grayson-Greenmyer Co. was purchased by General Controls Co. three years ago.

These Appliances 'Speak for Themselves'

Miniature Phonograph Delivers Sales Message When Customer Opens Door



NEW TALKING UNIT. Wm. A. MacDonald, director of merchandising and advertising, Crosley and Bendix Home Appliance Divs. of Avco Mfg. Corp., installs first miniature phonograph, concealed in box, on shelf of Crosley Shelvador refrigerator. Spring mechanism is released when door is opened, starting a 55-second sales message.

plays for Bendix and Crosley appliances.

MacDonough anticipates that displays will soon be talking in 3,000 retail stores. Dealers may obtain two types of displays through their distributors.

In refrigerators, ranges, and freezers, a small blue box containing a Sellavox will be installed on a shelf, and will start playing automatically when the prospect opens the door of the appliance. Closing the door returns the needle to starting position.

For use with the Bendix Doumatic washer-dryer, the Sellavox will be hooked up with a button on a display card. Pushing the button sets off the 55-second sales pitch. The dealer may interchange records applicable to each type of appliance.

In every case, the voice on the records directs the customer's eye to features of the merchandise, marked by "Day-glo" fluorescent stickers. With the Bendix appliances, deca pole displays from floor to ceiling of the showroom coordinate with the audio-visual units.

"Introduction of these displays is a big forward step, not only in merchandising, but in sales training," MacDonough declared. "With so many appliances on the floor, the salesman finds it hard to give a good presentation of all of them."

"The audible, factory-prepared statement, combined with a visual demonstration, fills in where the salesman may fail, and at the same time informs the salesman and arouses his own enthusiasm for the product," he added.

MacDonough stated that tests with other types of recording devices in appliance stores had definitely proved the selling value of sound. However, cost factors and technical problems had made mass installation of such devices impractical until now.

The Carter & Galantin Sellavox, with a set of three recordings, will cost Crosley and Bendix dealers less than most display without sound. Installation and operating costs are slight, since the machine runs on two flashlight batteries. The 3½-in. records are good for up to 1,500 playings, and may be replaced.

CHICAGO — Crosley and Bendix home appliances in dealers' stores will soon "speak for themselves" with the aid of "Sellavox"—a new miniature phonograph unit that delivers a brief but compelling sales message to prospective buyers.

William A. MacDonough, recently-appointed director of merchandising and advertising of Crosley and Bendix Home Appliance Divs. of Avco Mfg. Corp., is credited with being the first sales executive to sense the possibilities of the tiny, battery-operated phonograph as an audio-visual selling tool.

He first saw the phonograph two years ago, used in a talking doll, and referred it to Carter & Galantin, a Chicago sales promotion firm that creates and manufactures point-of-purchase displays and sales training aids.

Carter & Galantin obtained a franchise on the machine and developed it into the Sellavox for advertising and display purposes. They have just completed the new dis-

'Wonderbars' Find Way Into Girdle Shops, Seminary, Motels, Autos, and Airplanes

CHICAGO—Milady's latex rubber girdle slips on more easily when it is chilled. . . .

A theological seminarian gets more studying done when he does not have to leave his room for a cool drink or a light snack. . . .

These two unrelated facts indicate the many new uses that have been discovered for the "Wonderbar" electric refrigerette since it was first introduced by Servel, Inc. a year ago.

"When the refrigerette was placed on the market," Neal E. Schuman, field sales manager of Servel's appliance division, told distributors at a conference here today, "we were impressed chiefly with its great possibilities as a 'second refrigerator' in the home for use in bedrooms, living rooms, recreation rooms, and the like—and as equipment for executive or professional offices."

"But the public has found scores of additional uses for the refrigerette during these past twelve months—some of them so fantastic that they were not even dreamed of when it was first introduced."

Schuman reported that two shops specializing in ladies' "foundation garments" are storing latex rubber girdles in refrigerettes. That's because chilled girdles slip on more easily than non-chilled girdles—at least in warm weather.

He also cited the fact that 150 Wonderbars have been installed in the rooms of students attending a theological seminary in New York. "Heads of the school found that students were able to get more uninterrupted studying done," Schuman pointed out, "when they did not have to leave their rooms in search of a cold Coke or a midnight snack."

Hotels, too, have found new applications. Eight leading hostels in greater New York provide Wonderbar rental service for their guests—just as some hotels place radio sets or TV sets in rooms for a daily fee.

Seven hotels in Chicago have adopted the same idea, together with seven in Los Angeles, four in Miami, one in Dayton, and one in Omaha.

Motels likewise find refrigerette service helpful in attracting tourist patronage.

Hospitals have become regular—and enthusiastic—users.

Some indication of the ever-widening application of these refrigerettes is gained from an examination of the types of retail outlets that are now selling them. Originally, sales were handled chiefly through appliance dealers. Today Servel refrigerettes are being sold also through delicatessens, beverage stores, interior decorators, gift shops, surgical supply houses, office equipment stores, and others.

Developments during the past year prove that the refrigerette is literally "going places." While casters wheels permitted the early models to be moved from room to room, dual-age Wonderbars are now being used on boats, on planes, and in automobiles.

The original standard finishes—mahogany, blonde, and white—are still being offered for most installations. But a considerable demand has arisen for deluxe leather-covered models to fit in with special settings. Leathers used for this purpose have included English saddle leather, white calfskin, and hair-on calf hide in red-and-white and black-and-white.

Latest wrinkle in special Wonderbar finishes was reported by a Servel distributor in Latin America. Below the equator some families are now having special hand-painted designs applied to their refrigerettes to harmonize with elaborate settings.

"I fully expect the first rocket ship to Mars to be equipped with a Wonderbar," Mr. Schuman commented, "and if anyone wants a mink-refrigerette for a fancy boudoir, we'll be glad to supply it."

Another **ROCHESTER PRODUCTS**

GM STEEL tubing

ENGINEERING ACHIEVEMENT —

Exclusive

Automatic Bender

Forms

MULTIPLE SERPENTINE COILS IN ONE OPERATION!




SPEED AND ACCURACY are key considerations in forming serpentine coils for refrigeration condenser and evaporator units. Rochester Products achieves both with *exclusive Fully Automatic Bending Equipment* that forms *Multiple Serpentine Coils* of GM Steel Tubing in *one continuous operation!* Result: Faster production, greater uniformity, and **LOWER COSTS.**

This is one more example of how Rochester Products GM Steel Tubing engineering achievements are helping refrigeration manufacturers to build *better products, faster, for less money.*

GM Steel Tubing is mass-produced by Rochester Products at the rate of *hundreds of thousands of feet daily.* It comes in 120' to 2000' coils, in straight lengths, or formed to your specifications.

COPPER PLATING

Only Rochester Products manufactures continuous coils of **COPPER PLATED** steel tubing. Now, without adding copper, you can braze the tube to other parts such as fins and plates . . . and save in both material and labor costs. One user reports copper savings of 1200%!

SEND FOR **FREE** BROCHURE

This new, illustrated, fact-packed brochure tells how GM Steel Tubing can help solve design and production problems. Send today for your free copy.

SEE SWERT'S FILE IN 84

ALSO MANUFACTURERS OF ROCHESTER CARBURETORS AND ROCHESTER CIGAR LIGHTERS

ROCHESTER PRODUCTS

DIVISION OF GENERAL MOTORS

ROCHESTER, N. Y., U. S. A.

IN THE WINDOW BEHIND
THESE DRAPES IS
THE new
Carrier
ROOM AIR CONDITIONER
WITH THE NEW SLIM SILHOUETTE

Why, in this picture, do we conceal the new 1954 Carrier Room Air Conditioner behind the drapes?

Because those straight-hanging draperies dramatize so well how little the new Carrier extends into the room . . . scarcely beyond the window sill, in fact!

This great new room air conditioner with the new silhouette will set the style, make the sales! We urge you to see it at your nearest Carrier distributor's.

You'll be glad you did because what you'll see will be brand new! There will be a new silhouette . . . new adjustable air-flow . . . new built-in thermostat . . . new simplified controls . . . new colors!

See the new Carrier and you'll agree — it's built by the people who know air conditioning best!

Carrier

first name in air conditioning



CARRIER CORPORATION, 310 S. Geddes Street, Syracuse, New York

I want to sell the new Carrier. Send me the name of my nearest Carrier distributor.

Name _____

Street _____

City _____ State _____

Judge Is Good Judge of Trade-Ins



CUSTOMER LEARNS why this is a good used refrigerator for her needs. Judge Kinkle explains its features.

MEMPHIS, Tenn. — Occasionally an appliance dealer may be tempted to offer outlandish trade-in allowances in order to close a new appliance sale, but in the long run, he will be better off "sticking to the Blue Book," according to Judge R. G. Kinkle, of Ace Appliance Co. here. Judge Kinkle was formerly a Criminal Courts judge, who retired in 1945 to become an extremely successful appliance dealer. He has allowed his many years on the bench to temper his judgment in trade-in practices. He seriously deplores the attitude of dealers who make fan-

tastic offers of "\$100 for your old refrigerator or icebox."

While such practices may sell a rush of new refrigerators or washing machines, they are actually shallow triumphs because little or no profit is involved, and because the dealer is actually killing the opportunity of making a clean profit later on.

The only retailers who can pull any value out of oversized trade-in allowances, Judge Kinkle emphasizes, are large department stores who entice customers into buying in many departments through gratitude or sheer proximity brought about by

the appliance trade-in offer.

The average appliance dealer, on the other hand, has only appliances to sell, and his only opportunity to show a clean profit is to sell an appliance as near to list as possible, with a break-even or slightly profitable trade-in resale.

He believes that much can be learned from the operating maxims of the average used-car dealer, who puts complete faith in the "Blue Book" compounded by the national association, and who sticks to it through thick or thin. "Any motorist who has attempted to trade in his used automobile on a new one has invariably found that dealers offer exactly the same allowance," Judge Kinkle said. "This should be true in the appliance field as well, inasmuch as a united front along these lines would eliminate chiseling, unfair practices, and early bankruptcy for most of the dealers involved."

Ace Appliance Co. sets up a standardized trade-in allowance chart, and all trade-in allowances are figured exactly from this. If the customer seems disappointed, or apathetic, an attempt is made to sell her the company's well-organized service department, its nationally-advertised appliance lines, and the many "extra services" which go along with every appliance sale.

If necessary, the customer will be taken on tour of the service department, given a complete explanation of the warranties and guarantees attached. Merely pointing out the business tenets which built the firm has a lot to do with gaining customer respect, Judge Kinkle likewise pointed out.

Starting out in 1945, with a per-



70 Distributor Salesmen Share In Thor Prize Bowl

CHICAGO—More than 70 distributor salesmen were guests of Thor Corp. during a three-day holiday, Dec. 12-14, celebrating the culmination of Thor's "Million Dollar Prize Bowl" sales contest.

Salesmen in each distributorship who pushed their sales to the highest point over quota were brought to Chicago at Thor's expense for a three-day round of entertainment which included football games, shows, prize fights, wrestling matches, shopping, and sightseeing tours, etc.

Grand finale of the holiday was a banquet at which "Miss Thor" was named and the salesmen were awarded a variety of prizes.

A Cadillac sedan was won by Vernon H. Hussey, Vidalia, Ga., top-selling salesman for Peaslee-Gaulbert, Thor distributor in Jacksonville, Fla. Winner of a Ford sedan was Ben W. Carr, Harlan, Ky., of the McComb Supply Co., Inc., Harlan.

In the retail salesman's contest, held in conjunction with the distributor salesman's contest, a Chevrolet sedan was awarded to Jack L. Stanley of W. I. Super Service, Indianapolis.

In welcoming the salesmen to Chicago, Thor general sales manager, Thomas R. Chadwick, told them they had proved that, "The slow major appliance market can be overcome by a return to hard selling."

Chadwick quoted some impressive figures to back up his belief: Thor distributors attained 107% of quota nationally during the two-month contest.

Eighty-three per cent of Thor's distributor organizations met or bettered their quota.

Thor used its own appliances as prizes for distributor salesmen during the contest. Distributors received a quota of Thor products which were to be sold during the contest. Each product carried a point value. Thor appliances were awarded to the distributor salesmen on the basis of points earned.

Leading distributor sales in each division were chalked up by: Home Products, Inc., Cincinnati—Central Div.; National Sales Co., Rochester, N. Y.—Eastern Div.; Charleston Wholesales Furniture, Charleston, W. Va.—Southern Div.; and Emerson Central Valley Distributors, Fresno, Calif.—Western Div.

Coke-Guessing Contest Scores for Norge In Ga.

ATLANTA—"The most successful promotion we've ever used" is the way the Hopkins Equipment Co., Norge distributor here, described its recently-ended soft drink guessing contest.

In a report by David H. Kutner, director of advertising and public relations of the Norge Div. of the Borg-Warner Corp., Chicago, "unusually heavy sales" resulted for the 15 dealers participating in the two-week-long contest.

From 400 to 1,600 contestants registered at each store, sampled Coca-Cola, then guessed the number of Coca-Cola bottles stacked in a Norge refrigerator. Some 15 to 35 cases of the soft drinks were consumed in each store during the contest.

Each winner received the Norge appliance of his choice plus a month's supply (12 24-bottle cases) of Coke. Runners-up won a \$25 bank check to apply on the purchase of any Norge appliance. A one-month supply of Coke accompanied each Norge purchase during the promotion.

Boyd Corp., Portland, Me., Named Norge Distributor

CHICAGO — Appointment of The Boyd Corp., Portland, Me., as distributor was announced recently by Norge Div. of Borg-Warner Corp.

Boyd will serve dealers in the upper New England area. J. W. Boyd is president and general manager of the company.



He already owes \$1,850*

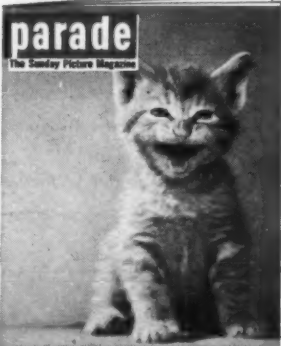
And he made 10,400,000 people stop, look and read

PARADE, the Sunday Picture Magazine, ran an article on how the U. S. Census Bureau forecasts the kind of world your new-born baby will grow up in.

More than 8 in 10 of PARADE's 13,000,000 readers in 43 key markets stopped to read it. Articles like this, week after week, make PARADE the best read publication in print, according to independent surveys. That's why PARADE advertisers get more than twice as many readers per dollar of ad cost as they do from any of the big weekday magazines. And the impact PARADE makes on Sunday makes sales all the rest of the week.

*His share of the current national debt

PARADE... The Sunday Magazine section of 43 fine newspapers in 43 major markets... with more than 13 million constant readers.



Plant Giveaway Draws Record Number of Customers

WILMINGTON, Dela.—If an appliance dealer wants to attract a lot of new women visitors into his store, the most effective giveaway medium is a live plant, according to Robert Justis, of Justis Bros., General Electric dealer here.

During September, when a slow-up in sales made an open house promotion seem a wise investment, Justis used all of the familiar gimmicks, including newspaper advertising, a "talking refrigerator" supplied by G-E, and a drawing for a boy's bicycle.

In addition, however, Justis promised each woman who visited the showroom and signed a registration card, a philodendron plant.

The philodendron offer was considered as merely an "extra," but Justis was astonished when more than 700 women descended upon the store, clamoring for the plants. Several rush trips had to be made to the nursery which supplied them, and the net result was a new prospect list made up of homeowners—because "who wants philodendron who doesn't own a home?" as one salesman put it.

During the 6-day period following the philodendron giveaway Justis Bros. doubled its appliance volume.

\$50 Toy Bonus Promotes Xmas Appliance Business

SCRANTON, Pa. — Gal-Mac Stove Shops, operating two appliance stores here, promoted Christmas business in major appliances by enabling parents to secure toys as a bonus.

The firm launched the promotion with a newspaper advertisement slanted at fathers. It was captioned: "Gal-Mac helps pop do his Christmas shopping in one big swoop. Buy your wife that appliance she had her heart set on. And the kiddies get \$50 worth of toys of your own choosing free."

The deal was explained this way: "Just buy Mom that appliance she's wanted for so long, and Gal-Mac will give you a credit slip for \$50, which you can take to the store in Scranton carrying the largest and most complete line of famous toys in northeastern Pennsylvania. There you can pick out the kiddies toys that you know they want."



An Anniversary Message from Deepfreeze to all Independent Distributors and Dealers.....

By some standards, 15 years is a "young" age for an industry. But it's the many achievements accomplished in those years that give Deepfreeze cause for celebration on its 15th anniversary.

In that comparatively short time Deepfreeze, with the help of its independent distributors and dealers, has developed a great new industry from a mere idea. This outstanding manufacturing and merchandising "team" has brought the better "home freezer way of living" to hundreds of thousands of American homes!

Deepfreeze is grateful to its distributors and dealers for their part in this mammoth enterprise. We are glad that it has been financially rewarding for them.

We are proud, too, that the Deepfreeze distributor and dealer has helped accomplish all this as "his own boss." He is not compelled to carry a variety of small-profit, "tag along" products—and he will not be compelled to do so in the future. He can carry any complementary lines of major appliances he chooses.

His own work determines the degree of success he achieves. He gets more satisfaction from his work, and makes more money. This has been the "Deepfreeze way" during the past 15 years. It will continue to be our system in the future.

There are opportunities for additional aggressive appliance dealers to help carry on in the Deepfreeze tradition—and to share in Deepfreeze profits.

A New Deepfreeze Assurance Plan for Dealer Wholesale and Retail Financing!

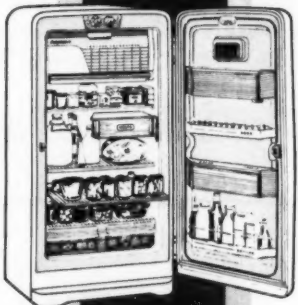
As a Deepfreeze dealer you can enjoy the benefits of the greatest dealer financing program now in operation. By relieving you of financial worries, it gives you complete freedom to merchandise and sell!

Deepfreeze can—and wants to—help you! For details, see your Deepfreeze distributor today or write, wire, or phone us direct.

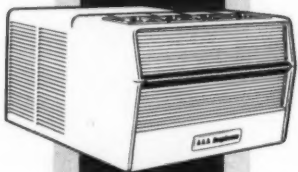
Deepfreeze
Home
Freezers



Deepfreeze
Dispensator
Refrigerators



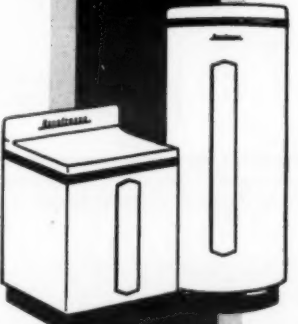
Deepfreeze
Room Air
Conditioners



Deepfreeze
Electric
Ranges



Deepfreeze
Electric
Water Heaters



Deepfreeze® Home Appliances

© 1954 Deepfreeze Home Appliances, North Chicago, Illinois.
Makers of genuine Deepfreeze Home Freezers, Refrigerators, Air Conditioners,
Electric Ranges and Water Heaters

See Deepfreeze Appliances during the Chicago Winter Market.
Merchandise Mart, Room 1469, Furniture Mart, Room 510B.

More Plastics In Refrigerators

Objections, Problems In Plastic Parts Being Solved by Research, Cooperation, ASRE Conference Hears

WASHINGTON, D. C.—Plastic parts are getting bigger from day to day, and as they get bigger, they will play an increasingly important role in the production of refrigerators and refrigeration and air conditioning products.

This was brought out at the Domestic Refrigerator Engineering Conference, chaired by R. W. Ayres, at the recent annual convention of the American Society of Refrigerating Engineers here.

Those taking part in the panel discussions were representatives of companies who design and produce plastic parts for use in durable goods products.

The representatives from the plastics field also pointed out that many of the problems and objections in the use of plastic parts in refrigerators had been overcome through research and cooperative projects with manufacturers of refrigerators and other durable goods.

One of the most comprehensive discussions on the subject of the growth in use of plastics was made by W. C. Schlager, Regal Plastic Co., of Kansas City.

Finish Problem Near Solution

"In the short space of one year, the increase in the use of high-impact thermoplastic sheet has surprised the most optimistic of those in our field. What a year ago had seemed to be the greatest problem to overcome, namely that of finish of the surface, seems now to be well on the way of solution.

"In the field of home refrigerators, the big use of this plastic has been as door liners, easily justifying its selection because of its built-in glossy finish and colors, its insulating value, high-impact strength, and ease of cleaning and handling.

"In addition to door liners, the refrigeration industry now looks with interest at preliminary production in a number of vacuum forming plants, of such other parts as food trays, drips pans, and baffles. One company has been using breakers formed from sheet, making it possible to pass around the corners before making the seam. The availability of this material in translucent form may spark the imagination of creative stylists and engineers.

Sheet Now Modestly Priced

"Naturally, there must be good reasons why this material is becoming so important. For the first time, we have a sheet material which is modestly priced. There have been a few experienced fabricators who were equipped with machines and know-how, ready to step in to serve the industry—this equipment having been developed in the handling of materials which were basically too expensive to be considered for large-scale production. This equipment is now capable of making the large parts which may be made of this material.

"Basic physical characteristics of

this material are 1) fine built-in finish and color, 2) excellent resistance to moisture, 3) insulating qualities better than any other material with the above characteristics, 4) freedom from odor or the ability to pick up odors, 5) high-impact gained by the combination of styrene and synthetic rubber.

"Suppliers have been offered samples of sheet having an over-lay of a few mils of clear styrene sheet applied by laminating. This seems to give a very high gloss on the sheet, but does not show up so well when thicknesses of 60 mil or more are needed. Of course, more development is expected. However, at the present time at least three extruders, not in the fabricating field, are producing a sheet of fine finish.

"Colors were limited at the start,

only because extruding equipment available could not be spared for time-consuming change-over required on special colors. Today color choices are unlimited, and available promptly.

"Stiffening can be developed by ribbing or the use of heavier stock, likewise a part of the strength of this material is possible because it has some flexibility.

"It is capable of carrying a light load, but should not be expected to contribute to the stiffening of the outer door. It seems that the development of shelves and the attachment of railing for shelves has been established as practical. Certainly the door of a modern refrigerator is expected to do more than just serve as a barrier to the loss of cold air.

"In the case of development of deep draws or too sharp radii, it is

important to remember that thickness of material is inversely affected by the depth of the part. Practically, it should be pointed out that sharp radii are capable of withstanding more abuse of a kind than large radii, as they are less likely to flex or 'tin-can' and therefore may be practical at a given thickness when larger radii would not.

Problem: Dimensional Tolerances

"Dimensional tolerances may be a source of difficulty unless sympathetic cooperation is attained between the engineer and the fabricator. In the first place, most thermoplastics have high thermal expansion. As a result, the material is not capable of supporting tolerances standard for steel.

"Secondly, molding or forming practices involve molds built to allow for shrink which occurs during cooling of the part at time of manufacture.

"Thirdly, a panel 50 to 60 in. long, stored in a cold warehouse, may vary as much as .05 in. between the fourth and eighth hour after being brought

into the plant at temperatures of about 70° F.

"Therefore, it is strongly urged that all door panels be installed so they can float, either by attaching them in channels or by clips over the edge or in oversize holes. A panel 50 in. long may vary as much as a quarter-of-an-inch between 0° F. and 100° F.

"Care must be taken that these materials not be exposed to aromatic solvents, especially as it applies to cleaners, gaskets, or sealers. One manufacturer had a severe loss because one line foreman ignored the warning not to use naphtha. Basic suppliers publish lists of acceptable materials. One manufacturer found that his regular supplier of vinyl gaskets could supply, at no increase in price, a gasket free of plasticizers which might harm the styrene. The same is possible with sealers if needed.

Choose Fabricator Carefully

"The better fabricators have information which can help avoid these few hazards, and it should go with-

(Concluded on next page)

Servel is

1. Only SERVEL refrigerators have no messy ice trays . . . they make ice "cubes" automatically and put them in a basket!
2. Only SERVEL offers a choice of ELECTRIC or GAS household refrigerators!



New 1954 Servel refrigerators with every deluxe feature: Automatic defrost, shelves, trip-saver handle, Dew-view fresheners, styling that sells on sight, PLUS the miracle of ice "cubes" without trays in both Electric and Gas models!

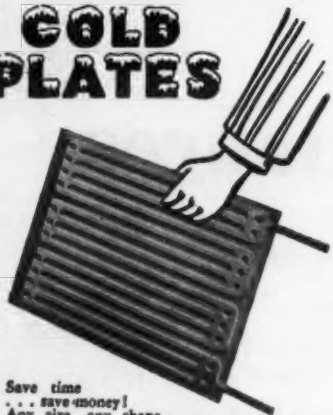
SERVEL 1954—A GREAT NEW LINE—A RECORD BREAKING ADVERTISING DRIVE—A PROFIT MAKING OPPORTUNITY UNEQUALLED IN APPLIANCE HISTORY!

Here—under the banner of one great name—are the products with the greatest future in appliances today! From the sensational new Automatic Ice-Maker Refrigerators in both Electric and Gas models to the new Casement Window Air Conditioners—the new Servel line for 1954 has the engineering advances, the brilliant styling, and the promotional power that means solid, year round sales and

increased profits!

In the face of weak, one-product lines, or lines cluttered with an assortment of products having no relation with each other, you can do no better than to profit with Servel—the line that specializes—the only complete line in the big field of home refrigeration—the line that offers you the greatest future in appliance history!

DEAN
"Job Tailored"
GOLD PLATES



WRITE FOR TECHNICAL DATA BOOK

DEAN Sterling 9-3400
PRODUCTS, INC.
1042 DEAN ST. • BROOKLYN 16, N. Y.

Injection Molding or Vacuum Drawn Process Best for Door Inner Liners?

(Concluded from preceding page)

out saying, that the choice of an experienced and reliable fabricator is paramount. Frequently it may be desirable to produce by press method rather than strict vacuum—even matched dies may be indicated. Only a fabricator with varied equipment and experience is safe.

"If you have a good product, and it looks good, please pass along to your salespeople the information that some anti-static treatment will help show off the product. Too many times the cabinet may sit in a show room and gather dust in unsightly patterns, when only a pass with a rag dampened with a 1% solution of Glim would discharge the static for weeks."

Another member of the conference panel, C. Massopust of General American Transportation Corp., said that "injection molded inner liners are now being made in sizes up to 1,800 in. of projected area."

Massopust said that there were differences of opinion on processes for producing plastic liners—the question being whether or not the injection molding or vacuum drawn process is best adapted.

The injection molding process, said Massopust, has the disadvantage of high initial costs, while the vacuum drawing process offers problems in tooling and in bringing about proper surface strength.

Production with the injection molding process has the advantages of providing for 1) long production runs, 2) constant wall thickness, 3) high-polish finish, 4) strength.

Allowances should be made for thermal movement of the plastic liner when it is bonded to steel, the speaker said. High temperatures can cause buckling, but this can be solved by good assembly methods and such precautions as slotted openings.

Large freezer doors bring a prob-

lem because of a warpage factor. Both cementing and the use of self-tapping screws have been used in an effort to solve this problem, but neither method has been completely successful, it was stated.

The Servel C-2 (portable refrigerator) was cited as an impressive use of a complete high impact polystyrene plastic liner, and was said to point the way to further and larger uses.

In the pre-formed type of laminate plastic, a new formula has been developed for the use of uni-directional fibers, said D. Eldred, General Tire and Rubber Co.

These uni-directional fibers improve strength of this material considerably, and Eldred said that only the cooperation of manufacturers is needed to make proper use of the re-inforced plastics, which he states have the advantage of lower weight and cost.

Use of multiple gating has helped solve problems in the injection molding of polystyrene plastics, particularly in the production of larger refrigerator plastic parts, declared R. W. Barber, Panelyte Div., St. Regis Paper Co.

With the use of multiple gating it has been possible to pre-calculate flow patterns, speed up molding and other phases of production, and has also served to cut costs.

The opportunities offered in materials treated by compression molding were outlined by H. A. Hoppens, Plaskon Div., Libbey Owens Ford Glass Co.

Polyester glass fiber offers a great many possibilities and approaches to the forming of large plastic parts, Hoppens stated. It offers advantages in surface strength and surface effects, and in fast production rates, he said.

Trend to Molded Colors

Hoppens also discussed the growing tendency to mold color in urea plastics molding operations, this providing great improvements over painted surfaces, he declared.

In connection with the matter of color, H. Creston Doner of Libbey Owens Ford Glass Co. presented an impressive slide film "The World of Color" (Thermo-Seeing and Polyester Fiber Glass Plastics and Their New Role in the World of Color

Merchandising). In connection with the film Doner outlined procedures and considerations in the selection of colors in production of consumer goods made with plastics or plastic parts.

J. N. Ruthenburg, Kent Plastics Corp., told how "design in depth" had been achieved for consumer products by plastic molding processes. This is a postwar development which has added "consumer appeal" to refrigerators in the form of decorative nameplates, handle inserts, evaporator doors, crisper pans, and thermostat knobs.

Ruthenburg described how bolder colors are coming into use in such things as handle inserts. He also discussed the use of cemented assemblies (using a mastic) in overcoming certain problems with such parts as handle inserts.

Tip on Extruded Plastics

The No. 1 cause of failures in extruded plastic parts is the failure to design properly for expansion and contraction, declared E. Szantany, Sandee Mfg. Co.

The extruded plastic section should be properly balanced to get the correct results, he said.

Szantany said that it is now possible to finish plastic sheets up to 58 in. in width, and by next year this may increase to 75 in.

In the discussion from the floor at the end of the conference, a number of "buyers" of plastic parts asked why the plastics industry had not established greater standardization, as an aid to proper purchasing of such materials. In answer it was stated that two organizations in the plastics field are now at work on a standardization program.

The question was also asked as to how many "large" plastic parts could be produced in an hour.

The consensus seemed to be that a good shop, adequately equipped, could turn out 40 pieces per machine per hour.

Dulfer Heads New NARDA Chapter In San Francisco

SAN FRANCISCO—Clarence E. Dulfer, Dulfer's, San Francisco, is the newly elected president of the recently organized San Francisco Bay District chapter of the National Appliance and Radio-TV Dealers Association.

Other officers are: vice president, W. O. Saxe, Sterling Furniture Co., San Francisco; treasurer and acting secretary, Jack Dreyfuss, Wisnom Appliance, San Mateo.

The board of directors elected by the Bay group membership include: Wesley R. Lachman, Lachman Bros., San Francisco; Roy O. Hurd, Hale's Appliance Stores, San Francisco, Oakland, and San Jose; W. J. Lee, Sherman Clay & Co., San Francisco, Oakland, and San Jose; Carl O. Hagstrom, General Appliance Co., San Francisco; Jack Hickey, Hickey's South San Francisco, Lomita Park; John C. Gillivan, Breuner's, Oakland and Berkeley; Frank C. Brodie, Brodie's Inc., San Francisco; Stanley Michelsen, Stanley's Radio-TV Service, San Francisco; Charles E. Shell, W. & J. Sloane, San Francisco; H. D. Pischel, Dohrmann Commercial Co., San Francisco; Raymond Roelse, Jackson's, Oakland; Richard B. Silva, Gordon & Silva, San Jose.

An initial group meeting early in November was followed by a second meeting on Nov. 10, at which time the above directors and officers were elected. The next meeting of NARDA San Francisco Bay District was held on Dec. 1, with the board of directors meeting prior to the general membership.

E-Z-SEE LIQUID INDICATOR



NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES

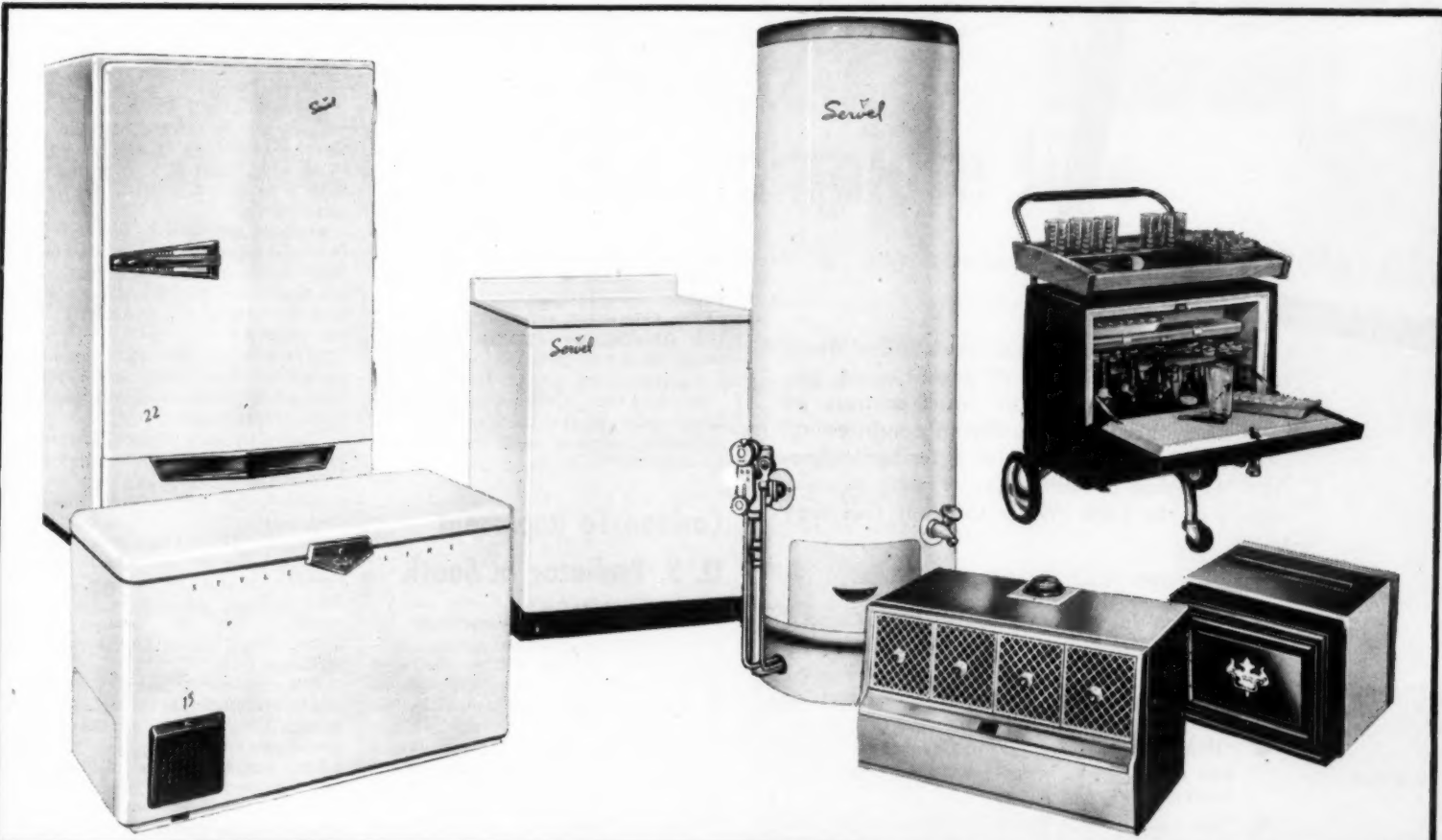
Analyze flow, function of expansion valve, by means of E-Z-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.

Available at wholesalers everywhere

REMCO INCORPORATED ZELIENOPLE, PA.

different!

3. Only SERVEL gives you all the other refrigeration products in one line!
Freezers, Room Air Conditioners, Electric Wonderbar Refrigerettes PLUS Automatic Water Heaters in both Electric and Gas models!



New 1954 Servel Electric Freezers, both upright and chest type. New Servel Electric and Gas Automatic Water Heaters. New 1/3 and 1/2 H.P. Casement Window Room Air Conditioners. New 3/4 and 1 H.P. Room Conditioners, now also in models that heat or cool. New Electric Wonderbar with Wondercart.

Servel

The name to watch for great advances in REFRIGERATION and AIR CONDITIONING

Dealers—Mail This Coupon to Servel Today!

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40-Year-Old Frame House Gets Year-Round Job

3-Hp. Airtemp System Gives Close Control

NUTLEY, N. J.—How older homes take on new living appeal with the addition of year-round air conditioning is shown in a 40-year-old frame residence located in a quiet residential neighborhood here.

Eight spacious rooms—four upstairs bedrooms, living room, dining room, kitchen, and basement recreation area—are air conditioned the year around with a Chrysler Airtemp 3-hp. residential air conditioner.

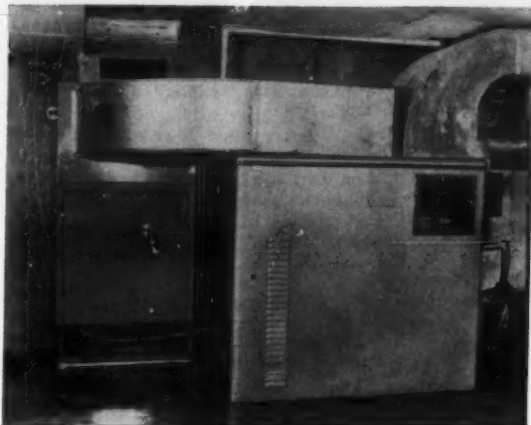
Added comfort, cleanliness, and a healthier atmosphere, according to owner Lee Richardson, make every day living "second only to Paradise" in the comfortable spacious old residence.

Because the original house design included steam heat, there were no forced warm-air supply or return ducts to individual rooms.

The thorough modernization program included furred-in air supply ducts to each room. They were built in corners of first floor rooms to second floor outlets, then covered with plaster and paint.

Return air to the gas-fired furnace is brought through a large duct in the living room floor. A secondary supply of outside air is drawn through a duct located in the foundation wall under the deep front porch.

The fully automatic system was installed by Richardson and Richardson, Nutley Chrysler Airtemp dealer, at a total cost of \$1,980.



Heart of the year-round air conditioning system in the old Nutley home is the Chrysler Airtemp gas-fired forced warm air furnace. Air is drawn through the furnace, filtered of dirt and dust, then cooled and dehumidified in the 3-hp. air conditioner (at left of furnace).

Equipment includes an Airtemp model A-102 gas-fired warm air furnace, and an Airtemp model 1503 3-hp. water-cooled residential air conditioner.

In July, 1953, temperature recording instruments tracked the temperature of the home air as it circulated through the return air system.

Daily temperature for the week ending July 10 varied between 71° and 76°. Lowest temperatures were noted from 8 p.m. to midnight and 4 a.m. to 6 a.m. Peak load hours, according to charts, were between 2 p.m. and 6 p.m.

A one-day check revealed a 2° temperature differential, from 74° to 76° F.

Outside weather was fair and hot, with maximum temperatures up to 88° F.

Baker Heads Sunbeam Air Conditioner Division

PITTSBURGH—William H. Baker, Jr., has been appointed vice president of the Sunbeam Air Conditioner Div. of American Radiator & Standard Sanitary Corp.

In his new position, Baker will be active in the development, production, and sales of Sunbeam warm air heating and air cooling equipment.

Baker joined American-Standard in 1936 as western manager of the air conditioning division, and became general manager of that division in 1938. From 1941 to 1947 he was engaged in general sales work. From 1947 to 1953 he served as eastern manager for Ammco Tools, Inc.



Comfort Is Secondary

Monticello's Year-Round System Has Preservation of Relics as Prime Purpose

CHARLOTTESVILLE, Va.—Plans for the year-round air conditioning of historic Monticello, Thomas Jefferson's home, were recently revealed by Worthington Corp., manufacturer of the air conditioning equipment for the installation.

The company said the proposed installation "is unique in that it is not designed primarily for human comfort but to combat the challenge for preservation of the increasing number of Jeffersonian relics being placed in the building."

"Any measure of human comfort derived will be a by-product of the prime purpose of humidity control both during summer and winter. The air conditioning will also help preserve the unfurred heavy masonry wall and timber framing which have suffered from condensation in the summer and frost action in the winter."

The air conditioning equipment will be located in the basement, directly beneath the famous octagonal drawing room. It will provide conditioned air for the first floor public area of the historical shrine and the second floor area.

Prime consideration was given to the interior appearance of the air

conditioning system. Supply air grills were completely concealed in order to maintain the original interior decorations intact.

A distinctive feature of the installation is the fact that existing chimneys and the original fireplaces will be utilized in each room for return air circulation and distribution.

Milton L. Grigg, F.A.I.A. of Charlottesville, is the architect for the restoration project and Wiley & Wilson of Richmond, Va., are the engineers, with R. E. Lee & Son of Charlottesville as general contractors and Wachter & Wolff of Richmond as the mechanical subcontractors. Catlett & Johnson, Richmond agents for Worthington air conditioning equipment, were the distributors.

The full project now going on at Monticello is said to be almost as extensive and similar to the work recently completed on the White House in Washington.

Monticello, designed and built by Jefferson near Charlottesville, has long been a mecca for tourists. It is one of the nation's most famous buildings and has been looked upon as a classic example of early colonial architecture. The home contains many of the great president's personal effects and many valuable relics.

Atlanta Installs 217 Residential Units In '53

ATLANTA—There were at least 217 central residential air conditioning units ranging in size from 2 to 10 tons installed on the lines of the Georgia Power Co. in the Atlanta area during 1953, M. T. Reeves, division residential new business engineer reported recently.

He noted that these installations cover the year only to Dec. 8.

"The above units I know were installed and I am sure there are more, but I do not have records to indicate them," he said. "I feel, however, that this tabulation is at least 95% accurate."

The tabulation referred to showed that installations included 137 2-ton units, 36 3-ton units, 33 5-ton units, 9 7½-ton units, and 2 10-ton units.

He said that while no attempt has been made in the past to keep an accurate record of such installations, he intended to do so.

Carlson To Represent U. S. Radiator In South

DETROIT — Appointment of Maurice L. Carlson as special representative, United States Radiator Corp., southern district, with offices in Dallas, Texas, is announced by W. C. McCord, president.

Carlson will assist the company's present representatives in the southern states in the promotion of all U. S. products, McCord stated.

"Because of the recent rapid growth in sales volume of our air conditioning line, special emphasis will be placed on summer cooling equipment distributed by our U. S. Capitolaire and Drayer-Hanson Div.," McCord said.

Carlson will cover the Gulf Coast states, including Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas, plus Arizona and New Mexico.

Carlson received his master's degree in electrical engineering from the University of Southern California. He served as chief electrical engineer for North American Aviation and as assistant to the factory manager of its Dallas operations; assistant manager of North Texas Chapter of the National Electrical Contractors Association; and more recently he has been a manufacturers' representative in the southwest.

Northern Ohio Gets First Heat Pump House

CLEVELAND—The Cleveland Electric Illuminating Co. announced recently that installation has been completed on the first "reverse cycle" heat pump for private home use in northern Ohio.

The pump will be operated under "laboratory" control conditions in an all-electric ranch home owned by George W. Britton, one of the company's commercial sales department supervisors.

Britton and the company will carry out by means of special meters and daily readings a two-year experiment to determine the pump's operating and performance characteristics for this region.

"Year-round 'reverse cycle' heat pump air conditioning of homes has been very successful in southern Ohio," Britton said.

The pump is a General Electric 3-hp. model, with six kilowatts of auxiliary resistance-type electric heating available for periods of unusually cold weather.

Among other features of the Britton home are six weatherproofed outdoor outlets for holiday and outdoor lighting, as well as for electric garden tools. An electric clothes dryer, range, and dishwasher are also included.

The five-room home, located at 28200 Hilliard Rd., Westlake, is 69 ft. by 24 ft. Besides the living room, there are two bedrooms, a dining room, kitchen, bath, full basement, and attached double garage.

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- "Do combination units require special duct insulation?"

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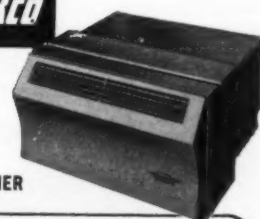
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INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

(Concluded from Page 1, Column 1)

Velocity of capital, credit, and money is the key to prosperity under Capitalism.

When everybody works harder and spends more—and when some save and invest—a nation benefits.

Business expansion depends primarily on salesmanship.

Enterprises pyramid largely through SELLING.

This fundamental Truth should be broadcast. It's the essence of the American Brand of Freedom.

Ergo:

Those of us who believe in Our System should dedicate a substantial portion of our lives and talents to the education of our fellow men, and oncoming generations, as to the merits and possibilities of Capitalism and SALESMANSHIP.

Our System is the best yet devised—not only for us, but for our progeny. Let's tell them why.

We've "had it good," we Americans. It's only fair that we make Life better for our sons and daughters, too—by telling them the Economic Facts of Life.

Preservation and extension of our Ideals and our System won't be easy.

Nevertheless, these unselfish Ideals comprise the finest and greatest heritage we can leave to the children of our World.

Luck and Justice—the Great Levelers

Proponents of Socialism garner adherents because they promise to level the peaks and valleys of economic maladjustments, and to plane down the differences between personal incomes.

Put briefly: They promise to make the Rich poor, and the Poor better-off.

Actually Socialism (Big Government) does no such thing.

Obviously Justice cannot be furthered by an all-powerful State which eliminates competition. Its Over-all Plans are more important than human desires AND SALESMANSHIP.

Socialism, the peoples of Europe now know, depends on Whom They Know, and how some bureaucratic overseer may weigh their relative contributions to the Cause. This is the most ruinous type of Luck.

Under Statism, the whims of self-appointed Overlords decide who is to live munificently and who is destined to scavenge the garbage pails.

What happens to people in a competitive system depends partly on their talents and energies, partly on luck, and partly on the obstacles they must hurdle.

Free Enterprise is the only system which allows an orphan to become richer than the boy who was born with a silver spoon in his mouth.

Under an all-powerful Government, the creatively different are check-mated and pilloried.

Opportunity depends on acquiescence of the Mighty. Bootlickers live handsomely, while people endowed with talent and imagination are side-tracked, or even liquidated, because they endanger the status quo.

When Big Government confiscates private property, it can decide who will get how much and what from the proceeds. Thus it can choke ambitions, or grant extravagant boons to kowtowing servants.

Confiscation is never a "just" redistribution of wealth. Rather, it creates brand new privileged classes.

Socialist Instructors Have Unsprung a Generation

Nearly every employer has observed, to his surprise and dismay, that a good many presumably well-educated lads and lasses whom he hires don't have the same values or standards he cherishes.

Rather, they demand: (1) What's the pay? (2) Is the job "permanent?" (3) How many hours must

they work per week? (4) What are the vacation and sick-leave chances for ducking work? (5) And your pension program?

Apparently a great many recent graduates are more interested in "security" and "dignity" than in their opportunities to elevate themselves—culturally and moneywise.

Even though they aren't a bit interested in contributing to the employer's progress, they insist that their "hours" and "working conditions" should border on the sinecure side. With a chip on the shoulder, they want to get without giving.

Trouble with some of these young job-hunters is that they've been indoctrinated with Marxian theories after the latter have been discredited in practice.

Now (hold your breath) we introduce a thought which Bleeding Heart "liberals" will resent.

Teachers are underpaid. Which makes them resentful. They're hired and paid by Government (that makes them amenable to Socialism). They feel—with justification—that they're overlooked and unappreciated. Hence it has been relatively easy for some Socialist underminers in our educational system to tinge the minds of impressionable children.

Let's not end this New Year column on a sour note, however. Most of the youngsters we meet nowadays are pretty level-headed. With help from us, they'll learn the score.

Barbour Heads Sales In Deepfreeze Central Area

CHICAGO—Promotion of David A. Barbour to central regional sales manager for Deepfreeze Home Appliances was announced recently by B. G. Sander-son, general sales manager.



D. A. Barbour

Formerly zone manager for the New England states, headquartered in Boston, Barbour will be in the company's office in the Chicago Merchandise Mart.

His territory includes parts of Wisconsin, New York, Pennsylvania, and Kentucky, and the states of Illinois, Indiana, Ohio, and Michigan.

Before joining Deepfreeze in 1949, he worked for Hamburg Bros., a distributing company located in Pittsburgh.

Adrian E. Borden Dies

BOSTON — Adrian E. Borden, president of A. E. Borden Co., appliance and parts wholesaler, died recently.

Borden founded the company in 1923. He is survived by two sons, two daughters, a sister, and a brother.

Seeger Sales Hit New High, Inventory Reduced

ST. PAUL—Sales of Seeger Refrigerator Co. in the first fiscal quarter ended Nov. 30, 1953, rose to a new quarterly high due to an added volume of defense work, John S. Holl, president, reported recently. Sales totaled \$27,976,854, compared with \$23,098,561 in the like quarter a year ago.

After Federal and state income tax provisions, net earnings were \$1,398,381, as against \$1,117,712 in the corresponding period a year before. The latest quarter's earnings were equal to \$1.25 a share on Seeger common stock, compared with \$1 a share in the first three months of the preceding year.

"The raw material situation is no longer critical and there apparently are ample materials available," Holl said.

"We have reduced our inventory of raw materials from those reported in our year-end statement."

At August 31, close of Seeger's last fiscal year, the company reported inventories of \$23,481,951.

Seeger manufactures both domestic and commercial refrigerators and freezers and related products, and has both prime and sub contracts for jet aircraft equipment in the defense program.

Houdaille-Hershey Appoints Johnson Div. Sales Head

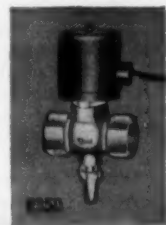
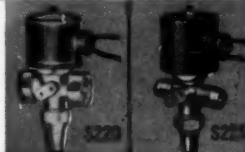
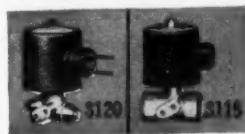
DETROIT—Appointment of Russell A. Johnson as divisional sales manager in charge of refrigeration for Houdaille-Hershey Corp. has been announced by Frank T. Downs, manager of sales.

Since joining Anthony Corp. of Streator, Ill. following graduation from the University of Illinois, Johnson has been associated with the Dodge Chicago Div. of the Chrysler Corp., with Frigidaire, and with Chrysler Airtemp. At one time he formed his own consulting engineering firm, designing and supervising the construction of refrigeration, heating, ventilating, and air conditioning installations, according to the announcement.

Prior to joining Houdaille-Hershey, he was assistant sales manager of Hoosier Cardinal Corp., Evansville, Ill.

Bush Declares Dividends

WEST HARTFORD, Conn.—The board of directors of Bush Mfg. Co. recently voted to declare the following dividends payable Jan. 4 to stockholders of record as of Dec. 15, 1953: 4½% cumulative convertible prior preferred—28½ cents per share; 5% non-cumulative preferred—31½ cents per share.

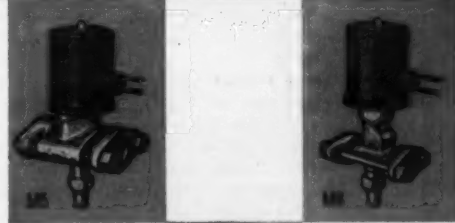
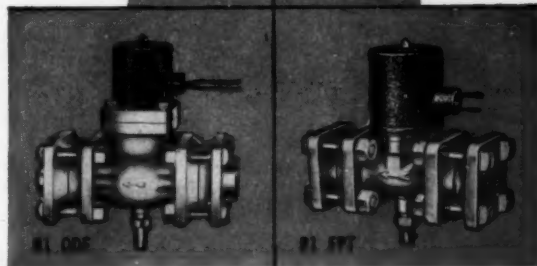
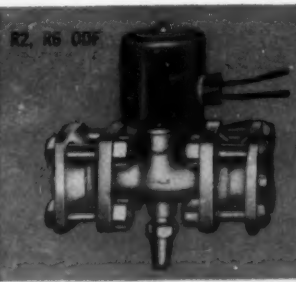
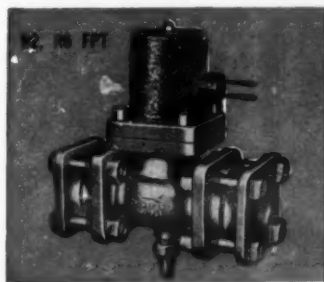


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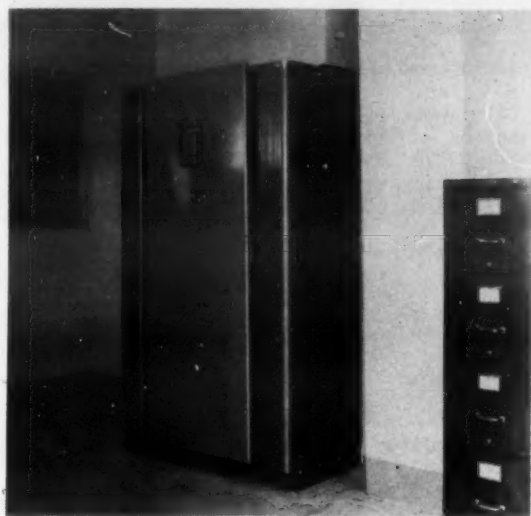
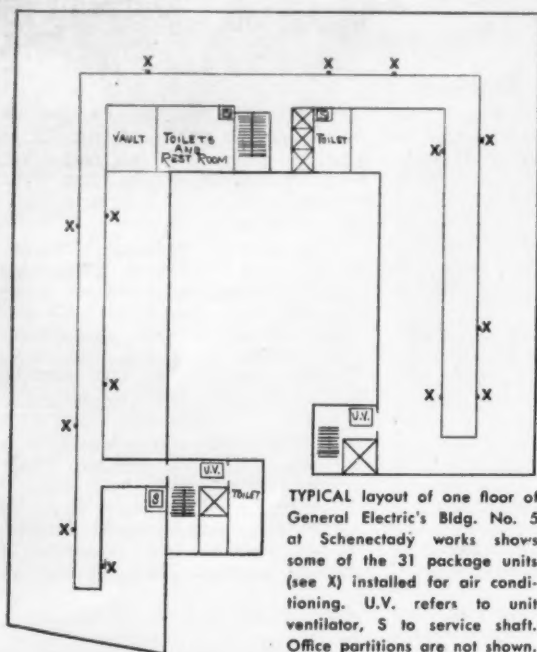
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THESE package units, management decided, "would not detract from the excellent appearance of the office areas."



AIR DISTRIBUTION is by means of ducts above false ceilings to square diffusers.

Use of Packaged Units Solves Problems of Air Conditioning New Offices In Old Building

By F. A. Reynolds, Project Engineer, General Electric Realty Corp.

During the last three years Building No. 5 of the General Electric Co.'s Schenectady Works, originally occupied by the Research Laboratory, has undergone extensive alterations and all areas now occupied by the Accounting Services Department have been transformed into excellent modern offices.

This transformation included air conditioning only in areas occupied by executive personnel and in business machine rooms where temperature and humidity control were a requisite. The offices were serviced by a chilled-water central system, distribution being by means of remote air conditioning units, while packaged air conditioners were used in the business machine areas.

Installation Requirements

Early in January of this year the Accounting Services Department decided that the air conditioning of all offices could be justified by the increased efficiency and improved employee relations which would result from such an installation. Following this decision the General Electric Realty Corp. was requested to provide preliminary designs and appropriation estimates for such an installation. Certain end results were desired, namely:

1. Controlled cooling and filtering of all air throughout the warmer months.
2. A supply of tempered outside air for ventilation throughout the heating season.
3. A minimum use of floor area.
4. An installation which would not detract from the excellent appearance of the office areas.
5. No loss of versatility of the

existing office layout which provided for extensive partition rearrangement.

6. No disruption of office personnel during the construction period.

Central System Out

Extensive study was necessary to determine the type of installation which would provide these requirements. Controls were readily available to produce any desired condition. However, lack of available floor area prohibited the use of a central system within the existing building, and the expense of an enclosed penthouse to contain such equipment directed this study toward the possibility of using packaged units.

Previous installations of this type conditioner had been most satisfactory as concerned operation and results, but their bulk was objectionable and their ungainly appearance with exposed piping, valves, and control equipment would seriously upset the decor of the new office areas.

It was about this time that the General Electric Air Conditioning Div. announced its new package units with sealed compressors and smaller cabinets of more pleasing appearance. To retain the versatility of office arrangement required air distribution systems to be laid out on the same module as the lighting and window arrangement—this was a mechanical problem well within the capacity of the G-E unit.

The requirement of no interference with the occupants would be a minor construction problem and could be resolved by indicating in the specifications that all work in office areas should be done on a second-shift basis. Therefore, a cost estimate based upon the use of G-E package units was prepared and accepted by the owners.

31 Control Zones Provided

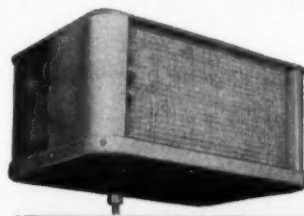
J. L. Ottenheimer, consulting engineer, was engaged to design and prepare the specifications for this project. The final design was based upon the installation of a combination of 3-ton and 5-ton packaged air conditioners having a total capacity of 141 tons of refrigeration. These provided 31 control zones to take care of different exposure conditions.

Outside air was supplied by means of five unit ventilators, one located in the rear corridor of each half floor being conditioned, the five units having a total capacity of 28,200 c.f.m.

As local conditions required recirculation of cooling water, this was accomplished by means of three water cooling towers installed on the roof, these having a capacity to reduce 470 g.p.m. of 95° inlet water to 85° outlet water at 75° outdoor ambient.

Installation of these units in the office areas was accomplished in such a manner that there was no exposed ductwork or piping and units harmonized with office decoration and equipment. All supply and return cooling water and condensate drain lines were brought into the units through the floor from headers located above the suspended ceiling of

the floor below. Electrical connections, except the supply line and disconnect switch which were mounted against the cabinet, were similarly concealed. Total floor area occupied by the 31 units was less than 400 sq. ft.



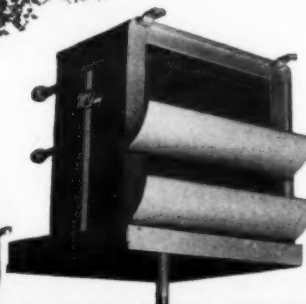
TWO-WAY UNIT COOLER

Three compact sizes of 80, 120, and 160 Btu per degree T.D., designed for the job where space is at a premium.



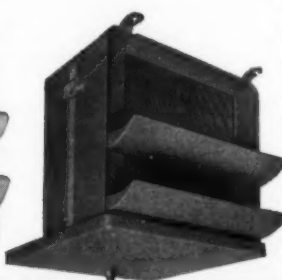
RADIAL UNIT COOLER

Seven sizes with capacity range from 200 to 870 Btu per degree T.D., styled for minimum height and depth to provide more head room.



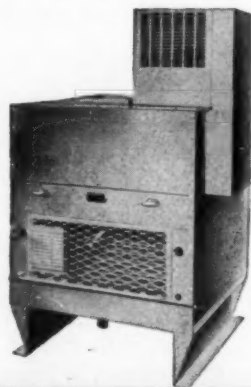
HOT GAS DEFROST SYSTEM

Six sizes from 300 to 1600 Btu per degree T.D.—completely automatic defrosting with "Reverse Cycle" hot gas for low temperature applications using air cooled F-12 condensing units.



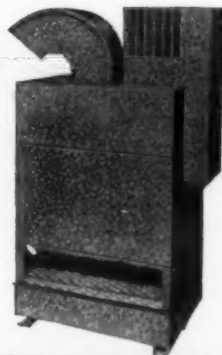
PACEMAKER UNIT COOLER

12 sizes from 114 to 2300 Btu per degree T.D.—general "low-side" applications in walk-in coolers, back bars, reach-in cabinets, etc.



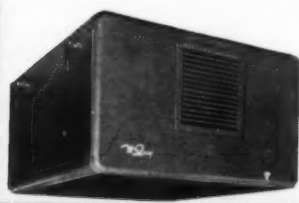
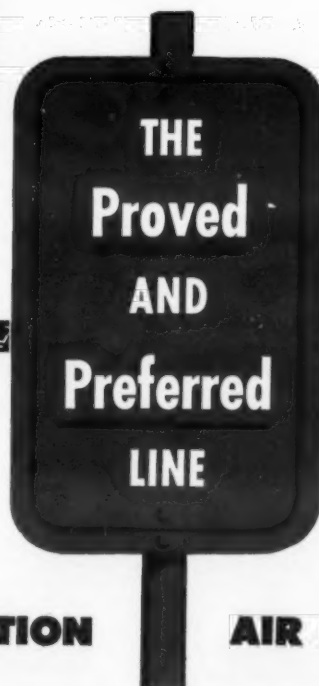
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3 models using bare tube coils—for water conservation in areas where water supply and sewage facilities are limited.



COOLING TOWERS

4 sizes with nominal ratings of 3, 5, 7½ and 10 tons with specially designed deck surface for economical condenser water cooling and other similar applications.



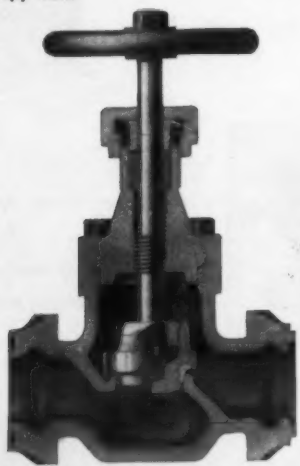
"RH" AIR CONDITIONER

4 sizes, 2 to 10 ton models. During hot weather, filters outside air and cools it by either cold water or Freon coils. Steam or hot water coils provide warm filtered air for heating seasons. Wide applications for stores, shops, offices, restaurants, etc.



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REFRIGERATION

AIR CONDITIONING

Office Air Conditioning

(Concluded from preceding page)

greatly reduced the load on filters in these units. The five unit ventilators were mounted on platforms in rear stairhalls and so occupied no floor area.

Reheat coils tempered the supply air and all ducts were insulated. The quantity of outdoor air, which is supplied by the unit ventilators, is increased in fall and spring seasons to economize on refrigeration. Each unit ventilator will supply filtered outside air to the conditioning units in summer, spring, and fall. In winter the air from the unit ventilators will be filtered and tempered under control of outdoor thermostats.

Cooling towers and circulating pumps were located on the roof adjacent to two service shafts. Supply and return piping entered these shafts on the roof and extended downward to supply headers on the fourth, fifth, and sixth floors which serviced the units on the fifth, sixth, and seventh floors. All control panels for operation of the cooling towers and pumps were mounted in these shafts at roof elevation. Operation of the fans in these towers is controlled by aquastats located in the supply line.

Charlotte Firm Gets Charter

CHARLOTTE, N. C. — Carolina Conditioners, Inc. here has obtained a charter from the Secretary of State to deal in air conditioning and heating machinery and equipment. Authorized capital stock is \$100,000. Incorporators: Robert Lassiter, Jr., Janet Turner, and Carolyn Griffin, all of Charlotte.

Steffens Offers Guide for Application of Automatic Controls to Air Moving Systems

FORT WAYNE, Ind.—Basic principles involved in the use of automatic controls in air conditioning, heating, and ventilating systems were outlined by G. V. Steffens at the AIEE conference application of motors to air moving equipment held here.

"Before discussing automatic temperature control for air handling systems, it is important that we all understand the fundamental components of a typical forced air system," said Steffens of the Fort Wayne office of Minneapolis-Honeywell Regulator Co.

"These components consist of a fan or blower, generally horizontally mounted; a discharge duct system; a return air duct system; an outdoor air duct for intake; and a heating surface. The heating surface may be any of the present popular methods such as a steam heating coil, a hot water heating coil, electric heat, or a direct fired warm air heat exchanger.

Steam Heating Coil

"For the purpose of simplicity this discussion will be confined to a steam heating coil. In almost all systems of this kind steam is supplied to the coil at a low pressure, seldom exceeding 5 lbs.," Steffens said.

"Elementary control of the system described above would generally consist of a room or space thermostat connected directly to the fan motor starter. On a fall in temperature in the space the thermostat contact

would make and the fan would start. On a rise in temperature in the space, the thermostat contacts would break and shut down the fan. This system is popularly employed on unit heaters, forced flow convectors, and some unit coolers.

"The limitation of this sort of control is found in its inability to prevent stratification of the space air temperatures. Whenever the supply fan is shut down, air circulation ceases and severe stratification occurs. This system also provides only intermittent ventilation. Thus the user receives only partial benefits of his forced air system. Spasmodic control generally results with sharp variations in temperature. This is particularly true when the heat transfer surface is allowed to run 'wild.'

"Many of the limitations encountered with on-off control of the fan can be overcome by continuous fan operation. When the supply fan operates continuously some control must be placed on the steam coil. This may be done in two ways. A two-position (either fully open or fully closed) valve may be installed on the steam coil and controlled by the space thermostat. While this system improves the ventilation factor and stratification factor existing in the previous system, it also has limitations in the wide variations of discharge temperatures incurred," he declared.

"By substituting modulating or throttling control for the on-off control described above, a change in



base temperature will call for a valve position change. This valve change will be no more than required to maintain space conditions. Thus the wide fluctuation in temperature can be reduced.

"So far in this discussion we have covered only the heating portion of the automatic control system. Ventilation control becomes particularly important during the mild weather season encountered in the spring and fall of each year.

Ventilation Control

"By installing a motor-operated damper in the returned air duct and a second motor operated damper in the outdoor air intake, it is possible to sequence ventilation control with the steam heating coil control. On a rise in temperature in the space the modulating steam valve will go to the closed position, and on a continued rise in temperature the outdoor air damper will move towards the open position to introduce outdoor air for atmospheric cooling often required during the heating season.

"When this type of control is used on the outside air intake it is desirable to install a low limit discharge controller in the delivered air duct to prevent the discharge of air at a temperature below the comfortable level.

"It is difficult to be specific about the minimum discharge temperature allowable because of the variations in forced air systems. In most cases a temperature between 60° and 65° F. is satisfactory.

"When automatic control of the outdoor air intake is employed, an exhaust air system must be coordinated with the outdoor air damper. The exhaust system may consist of gravity back draft louver, exhaust fan, or motor controlled dampers which would operate in conjunction with the outdoor air damper," Steffens explained.

"Thus, during heating and ventilating conditions, the air handling system is now capable of providing continuous fan operation to minimize stratification, modulating control to minimize temperature fluctuations, and ventilation control as required by the space conditions.

Cooling Coil Application

"Cooling may be added to the forced air system by inserting a cooling coil in the fan system ahead of the heating coil. The cooling coil may be of the direct expansion type, chilled water, well water, or in some cases city tap water. For expediency's sake we shall discuss a direct expansion coil application.

"Direct expansion coils are generally controlled by opening and closing a solenoid operated valve in the liquid line to the coil. Automatic control of this valve is generally accomplished with a cooling thermostat placed in a suitable location within the conditioned space. An alternate location can be the return air duct. To incorporate direct expansion cooling in the system herein before described certain precautions must be taken.

"You will recall that a low limit discharge controller was installed in the delivered air duct to prevent discharge temperatures from falling below a comfortable level in the winter or heating season. This controller must be removed from the controlled circuit during the refrigeration cycle. This can be accomplished either by means of a manual switch or a thermostat sensing outdoor temperatures to remove this controller from the circuit at tem-

peratures above 75° F., Steffens further commented.

"Thus, we have accomplished automatic year-round temperature control for a sample air handling system. It is understood, of course, that the method described above is not the only satisfactory system but is only a guide for the application of automatic control equipment to air moving systems," Steffens emphasized.

Nine-Store Arcade Uses Separate Packaged Units

CLAYTON, Mo.—Package air conditioning is providing cool shopping comfort for one of the most unusual new business buildings in Missouri.

Site is the new Clayton Arcade, a U-shaped group of 9 stores, totaling to one large building facing the Clayton Plaza here.

Designed for smart women's specialty apparel shops, jewelry stores, gift shops, and a lingerie salon, the Clayton Arcade has used individual package air conditioning, on the theory that there is likely to be less possibility of breakdown, and out-of-service periods, according to Henry Weis, Jr., of Henry Weis, Jr., Inc., who sold the installation.

Each of the 9 shops, depending upon its size, is separately cooled by either a 3 or a 5-ton G-E package unit, each with separate cooling tower.

"In this case, it was the owner's idea," Weis reports. "Instead of contracting for the usual central system which has been customary in previous installations in this area, the owner felt that package air conditioning would insure more operating days with proper temperature control than a central system."

Asks Court OK of Bond Issue For Tampa Airport A. C. Job

TAMPA, Fla. — The Hillsborough County Aviation Authority has begun proceedings in circuit court to validate a \$70,000 issue of revenue bonds to finance installation of an air conditioning system in the administration building at Tampa International Airport.

A petition by Earl W. Thompson, attorney for the aviation authority, put the proposed interest rate at a maximum of 6%, with the final maturity date of the bonds at 1968.

The proposal is to make the new issue of equal status with the original issue of \$450,000 in revenue bonds floated and financing of construction of the administration building.

Air Control Buys Larger Quarters In Kansas City

KANSAS CITY, Mo.—A three-story and basement building at 1921 Truman Rd. has been purchased by Air Control Co., distributor of air conditioning equipment, from A. & A. Mattress Co.

Joseph Gumowitz, president, said the larger quarters were needed due to expanding business. The firm handles both Frigidaire and Westinghouse air conditioning items.

Fifteen persons are employed by the company, which began operations in March, 1952. Harold D. Price is vice president of the company, and Raymond Ryan is the firm's secretary-treasurer.

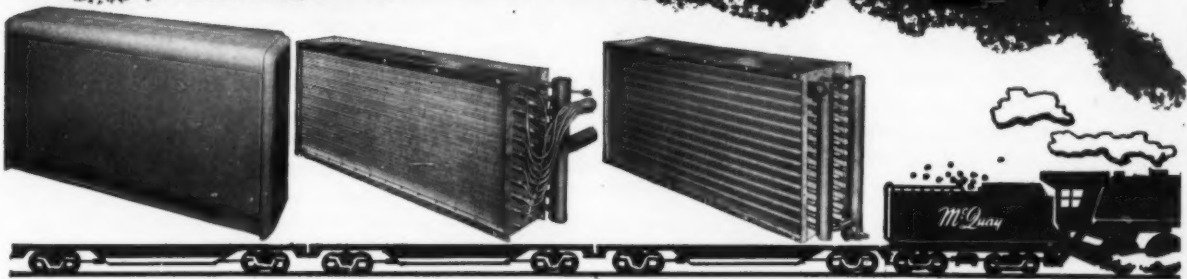
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Type "L" in 6 sizes from 1200 to 9000 Btu per degree T.D.—for locker plants, meat freezing rooms, ice cream hardening rooms, etc. Type "HL" in 6 sizes from 1133 to 8666 Btu per degree T.D.—recommended for storage rooms above 35-degree F., banana rooms, meat rooms, produce rooms, etc.

ZEROPAK SPEED TUNNEL FREEZER
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SEASONMAKER, FLOOR TYPE
In three sizes, 200, 400, and 600 CFM, (ceiling type also available) with cooling capacities from 1/2 to 2 tons with water, 1/2 to 1 1/2 tons with Freon. For mounting under window or along wall.

DIRECT EXPANSION COIL
8 models of 4 and 6 row DX coils, from 2 to 10 tons in capacity. 4 row coils produce more desirable leaving air conditions; 6 row coils are available for applications which require smaller duct sizes (face areas).

WATER COOLING COILS
4, 6, and 8 row coils from 1.8 to 14.5 tons capacity for air conditioning systems with air duct distributions. A total of 12 models.

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What's The Score For '54?

CUSTOMARILY the editors of AIR CONDITIONING & REFRIGERATION NEWS, the weekly newspaper of your Industry, survey prospects for the coming year each first issue in January.

Normally we depend on predictions from Recognized Authorities, trusted friends in our industry, government economists, etc. At the same time, the editors are cognizant of their independent responsibility to subscribers.

This Year the Cast of Characters, and the cast-of-thinking, will be different. We are relying solely on reports from our own reporters and subscribers.

Unanimously, almost, the latter say "phooey" to The Experts (who, as usual, are lugubrious).

Annually economic soothsayers predict a "falling off next year," and dire consequences thereafter.

BUT—annually these Prophets of Gloom are caught short.

Writer of this editorial does believe that Booms Can't Last Forever, and that Everything Which Zooms Upward Must Fall Eventually.

However, there's no sign of Real Trouble—yet.

Especially in our industry.

Whatever may happen to other segments of our economy, air conditioning and refrigeration salesmen believe sincerely that they're just beginning to start to get ahead.

New products will help these salesmen achieve their hopes.

Imaginative product alterations will help even more.

Never, in our quarter-century of service to this industry, have we witnessed such advanced household refrigerator designs, for example, as we've seen in the last fortnight.

They'll Do It Every Time Jimmy Hatlo



And improved room coolers, home freezers, icemakers, commercial food dispensers, will add to the Joy of Living for our industry in 1954.

Most significant to our industry is Eisenhower's move to cut down payments and interest rates on new homes. When that happens, as it will, a flood of buying urges for the products we sell will give us all a new chance to "make a stake," money-wise, legitimately. Pent-up demand for refrigerators, freezers, handy frozen foods, air conditioners, dehumidifiers, etc., will be released at a tremendous rate.

Tax cuts will loosen up "disposable" spending money, also. Eisenhower and his buddies in the Treasury Dept. may be surprised, too, by the likelihood that increased business volume resulting from these cuts will keep tax collections high.

All in all, AIR CONDITIONING & REFRIGERATION NEWS predicts Happiness and Prosperity for its subscribers and advertisers in the New Year of 1954.

Everybody and his Brother Herman predicts that the 1954 "pace" of business in general will slacken somewhat.

THAT could be GOOD for small businessmen in OUR industry. Thereupon, costs and labor difficulties shouldn't hamper their expansion inordinately.

Finally (and here comes "the commercial") Eisenhower and his cohorts HAVE STABILIZED THE WORTH OF A DOLLAR.

They have cut government costs and spending. They have lowered the boom on national budgets.

And Eisenhower's supporters have "changed the climate" for Businessmen from Suspicion to Cooperation.

Taxes are coming down.

Businessmen aren't reviled any more.

And we all have a better Chance to Get Ahead.

Happy New Year!

Thought Starters

"We are in a crisis which is not really military or economic, or political, but which, in its heart is really moral. We are in a period when ignorance is considered soundness and intellectual quality is suspect; in which distrust seems a safer view to hold than trust; in which policemen are more to be respected than judges, and soldiers more than philosophers.

"This road, if we follow it, is the road to death for free America. We will get off of it only if we work, and think, and fight—people like me in my area of influence, people like you in yours."—ERIC SEVAREID.

"The arch enemy of freedom is not some country with an alien philosophy, as so many believe, but something that dwells in you and me and in all men. That something is the glorification of position, privilege, prestige, possessions and power for their own sake. It is selfishness and greed, and it breeds jealousy and hate and conflict. It is a powerful force bidding for the mind and heart of every man. It is called materialism."—H. BIRDHARD TAYLOR.

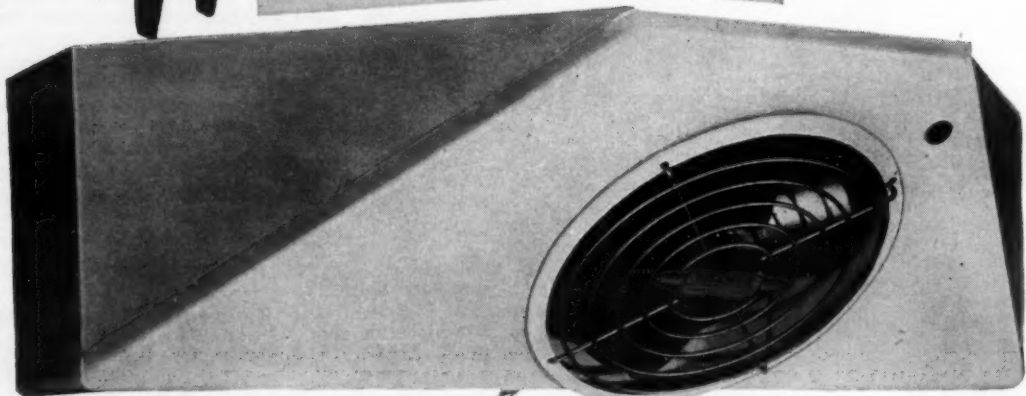
"Three qualities are deciding factors for a politician: passion, a sense of responsibility, judgment."—MAX WEBER.

"The great catastrophes of history, like the decay of Rome, did not come in one spectacular crash, but by a smooth tobogganing down the slope, which may last decades or centuries."—New Outlook.

"The silent power of books is a great power in the world; and there is a joy in reading them which those alone can know who read them with desire and enthusiasm. Silent, passive, and noiseless though they be, they may yet set people in action and change the course of nation."—HERBERT HOOVER.

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ROOM COOLER NEWS



Roanoke Firm Appointed Remington Distributor

AUBURN, N. Y.—Appointment of Richardson-Wayland Electrical Corp., Roanoke, Va., as distributor for Remington window and console room air conditioners in western Virginia and southern West Virginia has been announced by M. L. Judd, general sales manager, air conditioning division of Remington Corp.

The contract was signed by Remington representative W. H. Lassiter and Richardson-Wayland's general sales manager, William A. Moorefield. C. W. Camper is the air conditioning specialist for the distributor.

Other lines carried by the Roanoke firm are G-E home heating and cooling, and G-E "Weathertron."

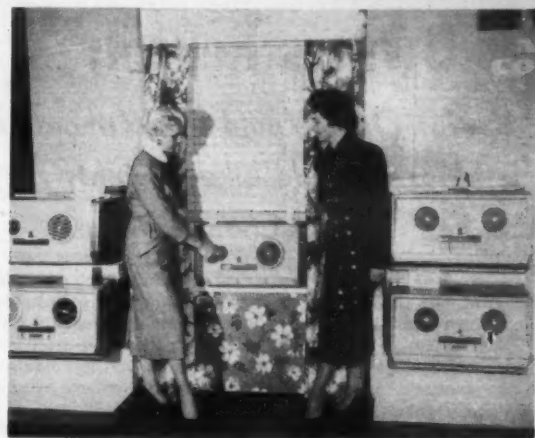
What Is a Window Sill? Answer Means Money to N. Y. Room Unit Owners

NEW YORK CITY—Owners of air conditioning units who live in apartments are finding that varying definitions of what is a window sill can cost them good money.

A regulation of the state housing rent commission says: "The (air conditioning) unit will be entirely within the window line with the exception of about 6 in. which will protrude beyond the window sill, and no part of the unit will be attached to or touch the outside of the building in any way."

If the tenant's air conditioner is installed to meet the requirements of this regulation, the landlord cannot increase the rent of the apartment, provided the tenant pays for the electricity he uses. But if it doesn't meet these requirements, up goes the rent.

Webster's dictionary says a window sill is "the timber or stone on which



Sally Tench (l.) and Lorraine Andre look over display of 1954 Kelvinator room air conditioners. Miss Tench is adjusting the controls on model RAC-64, a 1/2-hp. unit, in the window. Other models in the display are the RAC-64, upper left; RAC-104D, a 1-hp. unit with pushbutton controls, lower left; RAC-84S, a 3/4-hp. unit, upper right; and RAC-84D, a 3/4-hp. unit with pushbutton control thermostat and equipped with a winter heater, lower right.

a window frame stands, or the lowest piece in a window frame." It doesn't define a window line or the phrase "about 6 in."

Angry tenants assert that some

commission inspectors are permitting landlords to raise the rent when the air conditioning unit is only 5% in, beyond what the tenant claims to be the sill.

Vornado Adds 1-Hp. Unit With Winter Warmer

WICHITA, Kan.—A new Vornado 1-hp. air conditioner that retains all the former exclusive features of the Vornado and adds pushbutton controls and a winter warmer as well was announced recently by the O. A. Sutton Corp. here.

Just a touch of the finger on a pushbutton located on the front of the unit operates electric solenoids that automatically give the operation and capacity desired, the company said.

The new winter warmer pre-heats fresh outside air to room temperature and keeps homes filled with warm, fresh outside air during the winter months and frosty fall mornings.

The 1-hp. Vornado air conditioner will cool an area of 600 sq. ft., and has the usual features of cooling, ventilating, circulating, dehumidification, filtering, and exhausting, plus the exclusive Vornado features found on the 1/2-hp. and 3/4-hp. models.

Its exclusive "Vortex Control" combines maximum mechanical cooling with a high velocity air movement, and gives a 20% greater cooling effect. Rotating twin air circulators move air 1,600 f.p.m., sending a cool spiral of air up to 30 ft. into a room without drafts. At a touch of the finger, the air circulators rotate 360°, and tilt up or down, directing cool air where desired.

Another exclusive Vornado feature is the variable cooling control, offering a simple automatic pushbutton control of the cooling capacity. This gradual regulation allows the unit to remove up to 30 qts. of moisture from the air on humid days while operating at lower cooling capacities.

The Vornado exclusive comfort selector shows at a glance which button to push, giving you complete fingertip control.

Florida Motel, Cuban Apartments Install 42 Room Air Conditioners

MIAMI BEACH, Fla.—Installation of 26 Mitchell room air conditioners will guarantee fine Florida weather to vacationers staying at the Travelers motel in Miami Beach.

The 1/2-ton air conditioner units were recommended by Tropicair Engineers Co., Inc. after a survey revealed that units of this size could furnish proper cooling for the motel's sleeping areas.

To give sight-seers an unobstructed view through the windows, the conditioners are installed low in the wall, directly beneath the window sill.

A similar wall installation was provided for the Cabarrocas Apartments, Havana, Cuba, where 16 1/2-ton Mitchell room air conditioners cool all the bedrooms.

The Mitchell units are completely inconspicuous in the attractive rooms. Installed through the wall to keep windows free, the units extend only 3 in. into the room. This was made possible because of the unusual wall thickness and a special installation arrangement.

Installation in the Cabarrocas apartments was made by Mitchell Distributors, 23 Infanta, Havana.



THE FIFTY STANDARD



THE CONSOLE "150"



THE ONE HUNDRED STANDARD



THE THIRTY-THREE



THE FIFTY DELUXE



THE SEVENTY-FIVE STANDARD



THE CONSOLE "100"



THE SEVENTY-FIVE DELUXE



THE ONE HUNDRED DELUXE

Sell early.. Make more..

with the line that gives you most.

RCA AIR CONDITIONERS

Air conditioner customers know that modern units perform a useful year 'round function which is important to health, happiness and comfort. Hot, humid weather is no longer the only all important factor in the purchase of air conditioners. So, get your share of the early bird market.

RCA is ready now with a complete line of air conditioners to help you make real money. With smart new designs, more features, more models—and more for the customer's air conditioning dollar—you can stake your claim to greater sales and profits with RCA Air Conditioners... backed by powerful advertising.

Glance over these features—just a few of the many to be found in RCA Air Conditioners. You'll recognize them immediately as sound, practical order builders.

- Climate Tuner
- Permanent Aluminum Filter
- Powerful, hermetically sealed "Heart of Cold" compressor
- Hush-a-bye Fans
- Thermostatic control on most units
- Panel lights for easy night visibility on some models
- Units available for heating and cooling
- Adjustable grilles
- Beautiful color combination of Pacific Pearl and Alpine Gray
- Optional installation and maintenance by RCA Service Company

See your RCA Air Conditioner Distributor—Now!

RCA AIR CONDITIONERS

RCA VICTOR DIVISION

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IN CANADA, RCA VICTOR COMPANY, LTD., MONTREAL



Freezer Owners Reveal:

1. Not One Would Be Without It
2. More Would Like Uprights
3. Few Would Change Brands

ITHACA, N. Y. — How does the home freezer stand the test of time? After five years or more of use, how does it impress the freezer owner? Has it proved to be worth the investment? Has the owner's opinion of freezers and food freezing changed over that time? Does he have any suggestions for improvements?

Answers to these and other questions on freezer use were released recently by the Cornell School of Nutrition, based on a survey made by the school in the fall of 1952.

The survey covered 114 freezer-owning families in Tompkins county, N. Y., each of whom had owned their freezers for at least five years. These same families had been surveyed by the school back in 1946 when they purchased their freezers, and again a year later. The 1952 survey was the third and last planned by Cornell.

Freezer Pays Its Way

Though opinions varied on many questions, all of the freezer owners agreed that they would not be without their freezers. Nearly all—105 families—averred that the freezer had paid its way either in added convenience or in money saved. If they were to buy another freezer, most would choose the same brand that they now have. But, of the 95 with chest models, 32 would switch to the upright.

While many reported that they had saved money through seasonal and quantity buying and by saving food that would otherwise have been wasted, a majority affirmed that convenience was the biggest benefit derived from the freezer. Satisfaction, savings in time and labor, more interesting meals, and better year-round eating were other benefits mentioned.

In fact, 57% of the freezer-owners said that if they were selling freezers they would base their promotion on the convenience factor. Only 18% would stress the money savings angle. And only one family thought the good looks of the freezer was a selling point.

Asked to suggest improvements in their freezers, the owners mentioned many of the accessories and changes already incorporated in modern freezers. The things they objected to, the surveyors noted, have already been eliminated from more recent models.

Automatic Defrost High on List of Improvements

Only improvements that are not currently available are automatic defrosting or drains for easier manual defrosting, less depth in chest models, and lower prices.

Defrosting was an annual job for most of the families. Some defrosted twice a year and a few three times a year. Two families had never defrosted their freezers.

Service on their freezers was required by 53% of the families, mostly on motors. Fans, thermostats, and thermometers were other trouble spots. Most of the service was covered by the freezer guarantee and about one third of the calls cost less than \$10. About 38% cost between \$10 and \$25. The remainder ran from \$30 to \$120 (for replacement of a motor out of warranty).

Of the 10 families that would change brands if they purchased a

new freezer, service troubles were at the base of many decisions. Another cause was the desire for features not found in their brand.

While 32 of the 95 families owning chest type freezers would switch to the upright, only two of the 19 upright owners, would switch to a chest type.

One Third Found Freezer Too Small

Forty-five of the 114 families said that their freezers were too small. Half of these had freezers of less than 8 cu. ft., though three farm families had freezers of 20 to 30 cu. ft. capacity.

Of the 114 families, 44 owned freezers of less than 8 cu. ft. capacity, 18 had freezers of 8 to 12 cu. ft., 36 had freezers of 13 to 20 cu. ft., and 12 had boxes larger than 20 cu. ft. (Forty-three families were classed as urban, 35 farm, and 36 rural non-farm.)

Only seven families thought that their freezers were too large. These cases were families with larger capacity freezers that had declined in number or who did less freezing now than previously.

Twenty-six families said that if they were to buy a new freezer, they would get one with more than 20-cu. ft. capacity. Thirty-five would get one of 13 to 20 cu. ft. and 33 would get one 8 to 12 cu. ft. in size.

Keep It In or Near Kitchen

The freezer should be either in or close to the kitchen, it was agreed. About half the owners had their boxes in the basement and about half of these did not like it there.

When it came to freezing foods, the surveyed families used their freezers most for meats, then for vegetables, fruits, baked goods, and pre-cooked foods, in that order. Most of the families had instruction books and used them in preparing food for the freezer. They were satisfied with the directions given and found them adequate. The books were those prepared either by the freezer manufacturer or Cornell university.

Forty-three percent of the families said that their use of the freezer had changed over the years. Most of these indicated that they were freezing less than before, while nine families had increased their use of the freezer.

Reasons given for freezing less included the reduction or elimination of gardens, fewer mouths to feed, high price of meat, stopped raising meat animals, lack of time for freezing, and dislike of frozen foods.

Reasons for freezing more were usually the direct opposite of the above, plus an increasing use of frozen baked goods and commercially frozen products.

Thirty percent of the families reported unpleasant experiences with frozen foods, while 20% had had to discard food because of its disagreeable flavor. In three cases, the entire contents of the freezer had to be thrown away because of electrical or motor failure discovered too late to save the food.

Too Long Storage Blamed For Some Food Loss

Most of these families did not know why the food spoiled or developed off-flavor or odor. But those who did blamed too long storage, insufficient or lack of blanching, poor original quality in the food, inadequate packaging material, broken packages, thawing, and refreezing.

But despite all their difficulties, the survey noted, not one of the families would be without their freezer.

Cladco Appoints Wagner Sales Promotion, Ad Mgr.

BUFFALO—Clyde Wagner, sales manager of the range and freezer divisions of the Cladco Distributors, Inc., has been appointed sales promotion and advertising manager of the firm, it was announced by Carlton Luhman, president. Wagner will have charge of all dealer and distributor advertising for the eight-county western New York area.

Automatic Operation Handles 305 Tons of Low Temp Refrigeration

SYRACUSE, N. Y.—A food freezing and storage plant that operates with a minimum of attention is described and illustrated in a new booklet published by Carrier Corp. The plant is the modern Hopkins, Minn. warehouse of Merchants Refrigerating Co.

Ten Carrier ammonia reciprocating compressors supply 305 tons of refrigeration to quick-freeze 300,000 lbs. of "bulk" foods every 24 hours, while holding 21 million pounds in storage. The low-temperature two-stage system produces temperatures as low as -35° to -40° F.

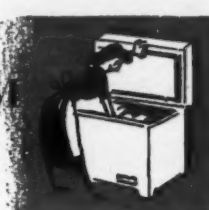
Automatic controls permit the refrigerating system to operate with no one in attendance 16 hours of each day and over weekends. In the event of malfunction during off hours, electric relays automatically shut down the machines affected and sound an alarm in the home of the plant engineer. If no response is received the call for attention is directed to a local service organization.

The refrigerating machinery also can be simply regulated for any or all of the 13 cooler rooms to quick-freeze various foodstuffs in accordance with production and marketing demands.

Aerial and action photographs in the booklet picture the plant, its mechanized handling system, and its automatic refrigeration. Copies are available on request from Carrier Corp.



HOME & FARM FREEZERS



'Evaluator' Helps Amana Salesmen Determine Size, Style of Home Freezer

CEDAR RAPIDS, Iowa — Amana Refrigeration, Inc. has developed a new sales tool that reportedly makes it possible for the dealer salesman to prescribe the exact size and style freezer a family requires.

The new device is the Amana "Family Freezer Requirement Evaluator."

Recommendations of the Evaluator are based on results of a nationwide survey of freezer owners on how they use their freezers. Their replies were correlated with the size freezers they owned and the size they thought they required.

The survey, conducted by James M. Vicary Co., a research organization, made possible determining scientifically how a family's food buying, preparation, and eating habits, precisely dictate the size and style freezer best suited for its requirements, according to Amana.

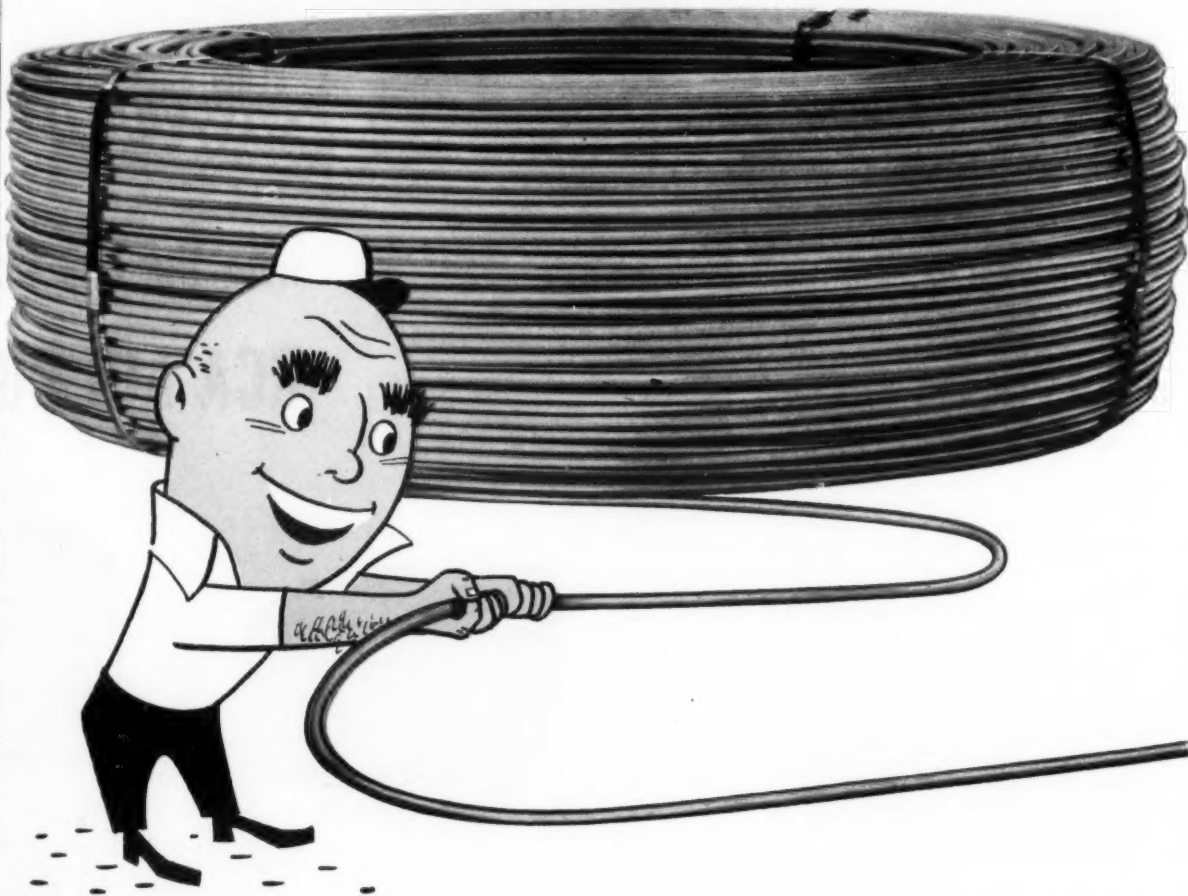
Here's how the Evaluator works, as explained by W. J. Dickinson, Amana's sales training director: "After a prospect for the freezer has been 'sold' on buying, she must make a decision as to the size and style

best suited for her family's requirements.

"In most cases, the customer is buying a freezer for the first time and has no previous experience by which to judge the size freezer that will best suit her family's requirements. So, with the aid of the Evaluator, the dealer salesman can quickly survey the prospect family's eating habits and requirements, then relate this eating pattern to the freezer use pattern of an experienced freezer owner."

The salesman asks the prospects 17 questions contained in the Evaluator. Answers to these questions then are automatically translated by the evaluator into the size and style freezer the customer needs.

Pointing out that all surveys have indicated that too many people buy freezers too small for their requirements, Dickinson said the Evaluator "will simplify making the close, promote sales, and insure that customers will be satisfied. The Evaluator also will help overcome the customer hesitation that frequently develops just before the sale is completed."



From fabrication to finished product... Bundyweld brings you real peace of mind

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of copper-coated steel. Then it's...



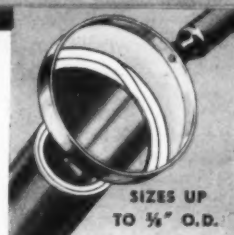
continuously rolled twice around laterally into a tube of uniform thickness,



and passed through a furnace. Copper coating fuses with steel. Result...



Bundyweld, double-walled and brazed through 360° of wall contact.



NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

Bundy Tubing Distributors and Representatives: Bridgeport, Conn.: Korhmel Steel & Aluminum Co., 117 E. Washington St. • Cambridge 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St. • Chattanooga 2, Tenn.: Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • Chicago 32, Ill.: Lopham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476 • Los Angeles 58, Calif.: Tubasales, 5400 Alcoa Ave. • Philadelphia 3, Penn.: Rutan & Co., 1717 Sansom St. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 4755 First Ave., South • Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 181 Fleet St. East. Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

IDEAL
Speed-Freeze
PRODUCTS

BEVERAGE COOLERS AND
INSTANTANEOUS DRAFT
BEER COOLERS.
(With Refrigerated Faucets)

WRITE
IDEAL COOLER CORPORATION
2933 EASTON AVE. • ST. LOUIS 8, MO.

Billboard Campaign, Consumer Contest Head Deepfreeze Promotion Plan for '54

CHICAGO—Headlined by an "unprecedented" billboard campaign to blanket the nation and a \$100,000 consumer contest, promotion of Deepfreeze home appliances in 1954 will be keyed to increased direct support of the individual dealer, distributors were told here recently.

Executives of Deepfreeze Home Appliances disclosed new promotion plans at a national sales conference for distributors at the Sheraton hotel, where the manufacturer's new lines of refrigerators, home freezers, and room air conditioners were displayed.

Also announced were a new cooperative advertising program, a plan for financing wholesale and retail paper, and special promotions for each Deepfreeze appliance.

L. J. Sorensen, executive vice president of Motor Products Corp., the parent company, predicted that consumer demand for home appliances will remain high during 1954. He added: "Never has there been so much emphasis on equipping the home for better living."

"Lead your dealers to sales," urged F. F. Duggan, vice president and general manager of Deepfreeze. "The success or failure of appliance selling rests primarily on the distributors."

Unwrapped at the conference were details of a four-month campaign described by B. G. Sanderson, general sales manager, as "the most aggressive in Deepfreeze history."

This campaign will be launched in January. Activities in February and

March will center on the \$100,000 contest for consumers, and in April the company plans a nationwide celebration of its 15th anniversary.

The billboard campaign, which was outlined by R. V. Newbell of Roche, Williams & Cleary, will operate on two fronts—100 key market areas and along all main highways in every state at an average interval of 40 miles. A total of 4,800 billboard posters, each with dealers' imprints, is contemplated.

R. A. Gilruth, Deepfreeze advertising manager, described the national contest featuring prizes for every state—including home freezers, refrigerators, or room air conditioners for every distributor territory and many national grand prizes. Contestants must take entry blanks to dealers' stores between Feb. 15 and April 1 and describe why they like a particular feature of a Deepfreeze appliance.

The new cooperative advertising program "will be the first of its kind in the appliance industry," the distributors were told.

This program will increase the factory's dollar contribution for each unit of sales, reduce the distributor's share, provide for the distributors to conduct their own cooperative advertising campaigns, supply sales promotional materials to distributors on a special basis, and furnish permanent signs for key dealers, it was explained.

A number of dealer aids, including

point-of-sale displays that take no more floor space than the appliances themselves, also were announced. In addition, Deepfreeze will continue to support its dealers with national advertising in consumer magazines and on network radio, it was disclosed.

Sanderson announced the company's sponsorship of the "Deepfreeze Assurance Plan" for financing wholesale and retail paper. It establishes a revolving credit plan which allows dealers to carry an adequate floor display of all Deepfreeze appliances and an adequate stock for immediate delivery to customers.

100% Return Guaranteed

He said it assures expansion of the business "because it guarantees 100% return on your retail paper" and permits dealers to do business with their local finance institutions.

John Fellmann, manager of appliance sales, stressed the importance of careful selection and training of dealers and working with them in the areas of proper display, dealer identification and promotions.

Detailed suggestions on how distributors and dealers can make practical application of the various phases of the new Deepfreeze selling program were presented by L. R. Walker, manager of field sales.

Demonstrations by home economists can help develop dealerships, Lyle Fraser Hutton, director of the Deepfreeze Home Economics Institute, told the distributors. Miss Hutton cited an example where a dealer who had been buying freezers three to six at a time became a regular carload customer after having floor demonstrations.

The distributors were given details

of a free home trial plan to promote refrigerators and an air conditioner program including a pre-season telephone campaign and layaway plan. The company recommended group demonstrations to sell freezers and advertising of ranges at a price that includes installation.

Among appraisals for the prospective markets of various appliances, the distributors heard Peter Lowcher, eastern regional sales manager, describe the refrigerator as still offering the "greatest opportunity for large volume of any home appliance."

He invited attention to the great replacement market potential in refrigerators rather than the often-mentioned 85 to 90% saturation. More than 3,000,000 refrigerators will be sold next year, he added, and conservative estimates indicate there are at least 10,000,000 units in service, a large number of which have reached replacement age.

Home freezer sales should take over second place among all "white goods" in 1954, said Sylvester J. Seibert, manager of Canadian sales. He declared that freezer retail sales should exceed \$500,000,000 next year or about 50% the size of the refrigerator market, which ranks first.

Freezer Market 'As Big As We Choose to Make It'

"The market will be as big as we choose to make it," he said. "Sales have been increasing at the rate of about 250,000 a year, which points to a market of at least one-and-one-half million in 1954."

Sales of room air conditioners have practically doubled every year since 1947, but still only one out of 100 homes and apartments has such a unit, reported Raymond Frederickson, assistant contract sales manager.

Prospects abound, he said, among the 59,000,000 existing homes and apartments wired for electricity, the 1,000,000 new homes built each year, and 3,000,000 offices.

The sales potential for electric ranges and water heaters was pointed up by David A. Barbour, central regional sales manager. Although in the last two years alone, more than 2,400,000 electric ranges have been sold, three out of four wired homes still lack them, he said. Only 14% of wired homes have electric water heaters, he added, and thousands of present units are outmoded by the demands for automatic washers for dishes and for clothes.

Packers To Hear How To Improve Frozen Food Handling In Food Stores

NEW YORK CITY—Results of a long study of the handling of frozen foods in retail stores, both service and self-service, will be presented for the first time at the convention of the National Association of Frozen Food Packers to be held in the Commodore hotel here from Jan. 31 to Feb. 3.

The presentation will be made on the last day of the convention by Vail L. Anderson, marketing specialist with the U. S. Dept. of Agriculture. The study was conducted by the market research division of the Production and Marketing Administration in cooperation with four supermarket organizations.

It was made to determine how retail food stores could increase labor productivity, and reduce costs through improved methods, equipment, materials, and layout of frozen food departments. "Better Operation—People and Methods is the title of the talk.

Transportation of frozen foods by rail and motor carriers will be one of the major topics discussed at the convention, according to M. K. Spiegl, president of the association.

The NAFFP transportation equipment committee will hold separate sessions with carrier representatives of railroads and motor trucks on Jan. 31. On the next day, a panel discussion will take place at which all segments of the industry and those with affiliated interests will participate.

Among the other major features of the convention will be "The Greatest Frozen Food Show on Earth" a series of displays at which prepared and specialty frozen foods, the fastest growing segment of the industry, will not only be displayed but also heated for tasting. One of the industry luncheons will consist entirely of prepared and specialty frozen foods served buffet style.

Hotel reservations may be obtained from the association at 1415 K St. N. W., Washington 5, D. C.

Woodworth To Head Field Sales for Quicfreez

FOND DU LAC, Wis.—Robert N. Woodworth has been named national field sales manager for Quicfreez, Inc. here, it was announced by Harry Ryan, vice president.



R. N. Woodworth

In his new position, Woodworth will have charge of national distribution of Quicfreez products for household use.

He has had an extensive background in distributor sales management, and was formerly southern sales manager for a leading appliance manufacturer. He is a Ph. D. graduate of the University of North Carolina, and served in the U. S. Navy amphibious forces during World War II.

Ryan also announced the appointment of Charles Pratt as district manager for Quicfreez in Atlanta, and the appointment of John Quinn as district manager for California, with headquarters at 1248 Wholesale St., Los Angeles.

Supermarket Offers Freezer Owners Weekly Meat Specials

PARK FOREST, Ill.—Many home freezer owners in this area take advantage of the weekly meat specials offered them by Pick-N-Save supermarket on quarter-carass beef.

The market offers two specials a week on choice beef, and there is no limit on how much the freezer owner may purchase. When porterhouse steak was a special recently, one customer bought 30 lbs. Should the supply of a special be exhausted, the market will fill the patron's the following week, it was said.

To forestall any complaints that the meat was not processed according to freezer owners' specifications, the market requires that customers be present when their orders are being made up.

Offers Frozen Food Bonus To Promote Freezer Sales

DAYTON—Barnet's Shopping Center promoted home freezers during the Christmas shopping season with a large newspaper advertisement in which it offered a big assortment of frozen foods with each freezer purchased.

The ad was captioned: "Our Christmas Present To All You Ladies—108 Packages Frozen Foods."

Offered as a bonus with the freezer were one dozen packages each of broccoli, peas, string beans, lima beans, spinach, mixed vegetables, and strawberries; one dozen cans of orange juice and one dozen cans of lemonade; six fryers; 24 steaks; a 14-lb. Christmas turkey; and a quarter side of choice beef.



You'll get rid of most of your tubing headaches, gain real peace of mind when you specify dependable Bundyweld Tubing for your condensers, compressors, evaporators, refrigerant lines, other tubing parts. Here's why:

If you do your own fabricating—whether you use coils up to 4000' long or straight lengths, you'll get clean, bright, ready-to-use tubing, shipped on time, exactly as specified.

If you require fabricated tubing parts—we're geared to produce them to your requirements; care-

fully clean, inspect, and custom-package them; rush them to you right on schedule—clean and bright, ready for your assembly operations.

If your tubing designs are simple or complex—we're ready to turn them out as quickly, accurately, and economically as possible. Whether your designs call for serpentine coils, swaging, flattening, expanding, brazing, saddle jointing, bending to small radii, piercing, upsetting, slotting, threading, angle cutting, notching, flanging, flaring, reducing, tapering, other fabrication operations, or combinations of the above, we offer you the industry's most versatile fabrication facilities.

If your product requires absolutely reliable tubing—you'll find

that exclusive Bundyweld processes make it a refrigeration natural. It's leakproof; thinner-walled yet stronger; has high thermal conductivity; takes easily to standard protective coatings.

If you need engineering assistance—our skilled engineers will draw upon their years of experience to help solve your tubing problems, perhaps show you ways to cut fabrication costs and save on materials, too. Whether you fabricate your own parts or wish Bundy to do the job, you're welcome to use our excellent engineering services. Call, write or wire us for information or for assistance on your tubing problem.

BUNDYWELD TUBING COMPANY
DETROIT 14, MICHIGAN

Bundyweld Tubing

DOUBLE-WALLED FROM A SINGLE STRIP



Demand IS FOR

CLEANABLE
WATER-COOLED
CONDENSERS

1/2 to 25-Ton Capacity

(HM)

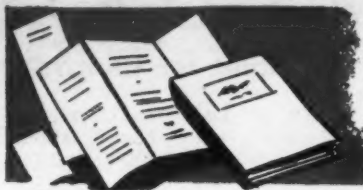
MORE EFFICIENT DOUBLE-TUBE
COUNTER-FLOW DESIGN

"New unit" efficiency is always maintained with H & M water-cooled Condensers because they are cleanable—quickly, economically. Do as the industry does—demand nothing less, for the cost is no more. Write for Catalog.

WHOLESALE IN PRINCIPAL CITIES

Halstead & Mitchell

BESSEMER BLDG. • PITTSBURGH 22 PA



Current LITERATURE available

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Booklet Gives Recipes For Kitchen Decorating

—KEY NO. P-110—

WARREN, Ohio — Youngstown Kitchens has recently published a handbook of kitchen decorating ideas and color schemes entitled "Adventures in Kitchen Decorating." The book was written by Melanie Kehane, one of the country's most distinguished decorators.

Designed as a how-to-do-it book, it is illustrated with water color sketches that are crammed with decorating suggestions. The drawings are by William Ward Beecher, an easel artist of national note.

In the booklet, Miss Kahane outlines the various ways to decorate a kitchen, using white cabinets and appliances without destroying a functional value of the room. She discusses treatments for walls, windows, and floors, and calls the kitchen "another living room to be decorated with as much care and attention as that given to other rooms in the house."

Lighting is discussed and there are two pages of special decorating devices, including the use of inside

shutters, room dividers, shelves, towel holders, and perforated board for closet liners.

Five pages deal with an exciting group of rooms called "the recipe kitchens." A "recipe" for decorating each kitchen is furnished, complete to the formula for the paint colors and the source of the floor coverings. The names of the recipes, relating, of course, to the color scheme, are mouth watering—Strawberry Mousse, Chocolate Creme, Copper Casserole, Southern Creole, Curry and Rice.

Some of the kitchens shown are quite elaborate, but the color schemes and the individual decorating ideas shown can be used in modest kitchens, new or old.

Sherer Prints Specs on 'Mr. 4 by 4' Display Table

—KEY NO. P-111—

MARSHALL, Mich. — A specifications sheet on the Sherer "Mr. 4 by 4" refrigerated display table has been published by the Sherer-Gillett Co. here. The sheet not only outlines specification features, but illustrates various uses for the case which can be shopped from three sides.

Open the Door To Data on Davison's New PA 400

—KEY NO. P-112—

BALTIMORE — A new technical bulletin on Davison Chemical Corp.'s PA 400 refrigeration grade silica gel was announced by the company's industrial chemicals department recently.

The four-page bulletin is shaped like a refrigerator door, which, when opened, reveals data on the greater moisture absorbing power of the desiccant and a comparative check list on PA 400 properties and those of competing brands. Specifications are listed on the back.

Booklet Tells How, Where To Use 'Detect-A-Flo' Unit

—KEY NO. P-113—

ASHLAND, Mass. — Application ideas, installation tips, and suggested circuits for utilizing the recently announced "Detect-A-Flo" unit, a device that controls or detects both liquid level and air flow, are presented in a new 16-page illustrated booklet being offered by the manufacturer, Fenwal, Inc. here.

In addition to a variety of application information, the booklet also discusses the principle of operation of this unusual device. It has no moving parts, is hermetically sealed, and is installed directly in the tank or air stream being monitored. Also given are detailed specifications, including response curves, on the performance, operation, and electrical characteristics of the unit under various conditions of use. Copies of the booklet may be obtained upon request.

New Home Booklet Offered By American-Standard

—KEY NO. P-114—

PITTSBURGH — A new planning booklet called "Plus Value for Your Home" is being offered to dealers by the American Radiator & Standard Sanitary Corp.

The 40-page booklet (Form 373) is a new edition of the Home Book that American-Standard has been sending out in answer to consumer inquiries about its products, the company said.

The book is divided into three sections—on bathrooms, kitchens, and hot water heating—and is available at 10 cents per copy. However, each of the three sections, each 16 pages long, is available separately at 5 cents per copy. Cover space on all booklets is allotted for retailer imprint.

The booklet is full of valuable information on a complete line of heating and plumbing products and provides tips and decorating ideas for customers planning to build, buy, or remodel a home.

Bathtubs, lavatories, toilets, kitchen sinks and cabinets, and hot water heating equipment are shown in full-color photographs.

Temperature Control Systems Explained

—KEY NO. P-115—

ROCKFORD, Ill. — Educational Bulletin F6149 on "Temperature Control Systems" was recently made available by Wheelco Instruments Div., Barber-Colman Co. here.

An informative section helps in the selection of sensing elements and their correct use for the most satisfactory results. Instrument industry control terminology is given in this bulletin, as well as rules to follow in selecting the proper method of temperature control for process characteristics or reaction.

A complete explanation is given of the various types of control systems, ranging from two-position "on-off" to proportional position with automatic reset. The questions of where to use each system and what Wheelco instruments are required for the best control results are answered in this bulletin.

Dwyer Bulletin Covers Specialized Instruments

—KEY NO. P-116—

CHICAGO — A new condensed bulletin has been published by F. W. Dwyer Mfg. Co. here presenting the company's broad line of specialized instruments and gages. Included are instruments for accurate measurement of combustion, draft, pressure, flow, vacuum, CO₂, smoke, velocity, static pressure, pressure differential, temperature, and other similar studies.

Cooling, Heating Unit for Packaging Room Described

—KEY NO. P-117—

LOS ANGELES — "Spotaire—Ideal for Cutting and Packaging Rooms" has been published in two colors recently by Drayers-Hanson, Inc. to point up the practicality of Spotaire for summer cooling and winter heating in any given section of the country.

The information piece is highlighted by installation scenes of meat cutting and packaging rooms at the new Market Basket market in the Parklabrea district here.

Cutaways of the unit and other pertinent data on it are included. Spotaire is claimed to be the first equipment of its kind specifically engineered for cutting and packaging rooms.

48-Page Catalog Describes Industrial Spray Nozzles

—KEY NO. P-118—

BELLWOOD, Ill. — Spraying Systems Co. here has announced a comprehensive, 48-page catalog in which thousands of standard and special industrial spray nozzles are illustrated and described.

For each nozzle, complete data is listed covering capacity and spray angle.

Dimensional specifications for all standard nozzles are also given.

Because the information in Catalog No. 24 is so extensive, a new type of index was designed to assist the reader in finding desired data. Spray nozzles are indexed in terms of "Spray Patterns." The six main headings are "Hollow Cone," "Full Cone," "Square Spray," "Flat Spray," "Straight Stream" and "Air Atomizing."

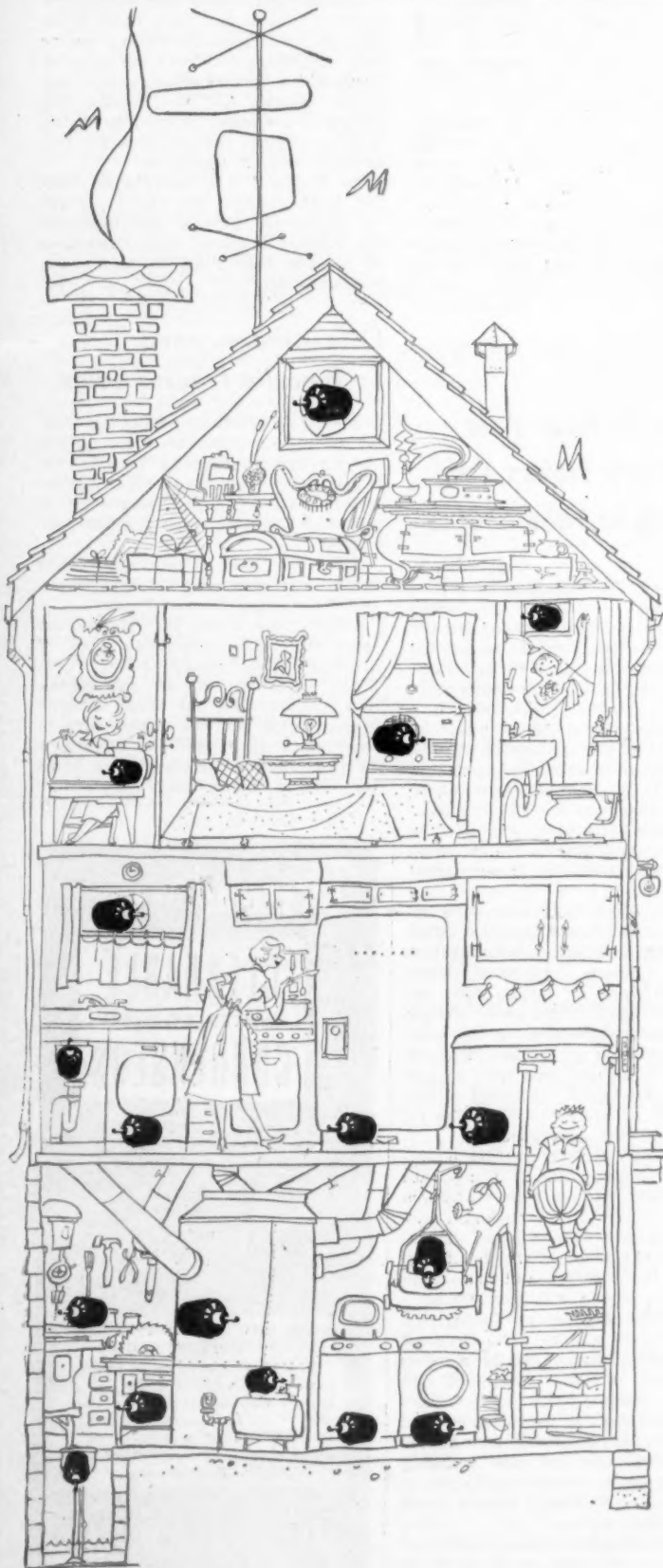
In addition to spray nozzles, information is supplied on a wide variety of related equipment such as line strainers, elbows, check valves, and adjustable joints. Tables are included on spray coverage and pipe frictions.

Ark-Les Catalog Describes Switch Replacement Kit

—KEY NO. P-119—

WATERTOWN, Mass. — A 4-page catalog No. VR-5310R describing its electric range switch replacement kit has been announced by the Ark-Les Switch Corp. here.

The kit contains switch bodies for all 3-heat, 4-position to 7-heat, 8-position circuits and oven circuits; mounting adapters for threaded-stem, two-screw, and rear-bracket mounting; shafts for all knobs and mounting angles, standard knobs for all switch applications; and miscellaneous hardware used in electric range servicing.



DELCO MOTORS

the best running mate
your product can have

There are millions of Delco motors—fractionals and integrals—now serving reliably to operate appliances, tools, machinery and equipment of every sort.

Such universal approval suggests that a Delco motor gives a good account of itself, performance-wise. Such universal approval suggests, too, that a Delco motor would make the best running mate for your product!

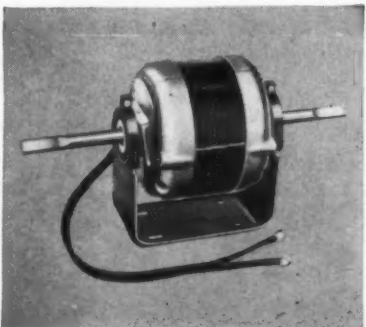
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MANUFACTURERS' REPRESENTATIVES!

As an industry service, AIR CONDITIONING & REFRIGERATION NEWS maintains a file of manufacturers' representatives—serving the refrigeration, air conditioning, and allied industries—in all parts of the country and in some foreign countries.

We periodically check our files to expand this service and request all qualified representatives (except those who have written within the last six months) to send us the following information today on their own letterheads:

1. Complete name of company or individual, address, and phone number.
2. Lines and products now carried (not necessary to list manufacturer represented).
3. Lines and products being added or interested in adding.
4. Territory covered by states, parts of states, or countries.

Please send the above information to:

AIR CONDITIONING & REFRIGERATION NEWS
BOX RP-A, 450 W. FORT ST., DETROIT 26, MICHIGAN



New Unarco Mobile Room Air Conditioner Needs No Permanent Installation Fittings

CHICAGO—A mobile air conditioning unit that does not require permanent installation fittings and can be moved from room to room whenever desired has been marketed by Union Asbestos & Rubber Co. here.

Edwin E. Hokin, Unarco vice president in charge of the company's new heating and air conditioning division, said, "The entire unit rolls easily on rubber composition wheels and can be handled by any housewife."

He pointed out that homeowners in areas where water charges are high can attach the drain from the unit to a garden hose and use the water passing through the unit to sprinkle their lawns or gardens. "This can result in substantial economies by re-using water that would normally be wasted."

Carl Nevinger, general manager of Unarco's Greenville, Ill. plant, where the appliance is being put in volume production, said the $\frac{1}{2}$ -hp. air conditioner is only 28 in. high, 18 in. wide, and 17 in. deep—"yet it is powerful enough to easily cool a room approximately 500-ft. square on the hottest days."

The cabinet, encased in a DuPont vinyl plastic, comes in either dark brown or ivory.

When the cooling season is over, Nevinger stated, the unit can be wheeled into a closet "where it is out of the way until the following summer."

The entire unit, he said, weighs less than 200 lbs. and is equipped with a squirrel-cage type fan.

The air conditioner, he said, will operate under adverse conditions from 43 to 48°, depending on water temperatures. It delivers 250 cu. ft. of air per minute.

A switch also permits it to be operated with the refrigeration unit shut off so that it can be used as an air circulator or fan, if desired.

No permanent hose connection is

required, according to Nevinger, who explained:

"Water can be drawn from any household tap through a small $\frac{1}{8}$ -in. flexible rubber tube, similar to that used on a bath spray."

In addition, he declared, all air passing through the air conditioner is drawn through a "simply cleaned" filter.

RIGHT: Attractive Mary Thimmesch finds it's no chore to move the new Unarco mobile air conditioner from kitchen to living room. The unit is built by the Union Asbestos and Rubber Co.



Mitchell Gets 400,000 Room Unit Orders--

(Concluded from Page 1)

cial loss from a drop in sales because of unusually cool summer weather. It involves the setting up of a reserve fund to compensate distributors and dealers, in part, for units left on their shelves at the end of the air conditioning season. At the same time, it provides a "cushion" enabling distributors and dealers to put end-of-summer price cuts into effect without loss to themselves.

"Dealers said the insurance plan removes the uncertainty that previously made it difficult to carry adequate stocks," Mitchell reported. "They feel its protection wipes away the last obstacle to active merchandising on room air conditioners."

Mitchell added that "the great fraternity of dealers throughout the United States believe the insurance plan is their protection for each other. They are secure in the knowledge that cool weather in their own region will be compensated by high temperatures in another section of the country."

Another tremendous stimulus to dealer acceptance was the "Big Two" plan, Mitchell reported. This promotion offers consumers the Mitchell deluxe $\frac{1}{2}$ -hp. models and the $\frac{1}{4}$ -hp. model at \$100 below the combined list price, provided both units are installed in the same house. A dealer selling the package receives a \$45 rebate which allows him a 28% higher-than-normal over-all margin on the sale.

Mitchell's sales trip involved dealer-distributor meetings in cities from New York to California and as far south as Miami. The meetings introduced to dealers and distributors the Mitchell 1954 line, which features a new powerful cooling system and two additional models as well as flush-mounting.

Among the Mitchell executives who accompanied the president were Eugene A. Tracey, vice president in charge of the air conditioning division; Howard Haas, advertising director; and Charles Schroeder, service manager.

The True Flush Mount

MITCHELL

ROOM AIR CONDITIONER

takes no space in the room!

***ACCLAIMED BY DEALERS EVERYWHERE AS THE MOST IMPORTANT SALES FEATURE IN 1954!**



George Scott, Commonwealth Edison Company, Chicago, Illinois. "True Flush Mount engineering and styling make an unbeatable combination."



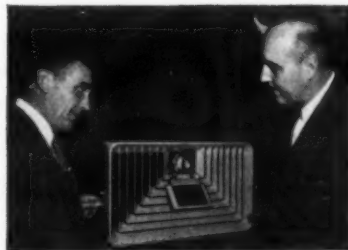
Walter Cuevas, Foley's, Houston, Texas. "The new Mitchell look is what the housewife has been wanting. Once she sees it, it's a sale for Mitchell."



Jules Smith and Harry Stein, Davaga Stores, New York. "Mitchell's new flush mount is truly spectacular! Now it takes no space in the room and blends with decorating."



W. E. Price, Tampa Appliance, Tampa, Florida. "True Flush Mount is a tremendous advantage over unattractive space-stealing units. There's never been anything like it."



E. H. Gardiner, Texas Power & Light Co., Dallas, Texas. "A survey of the Southwestern market definitely showed they wanted true flush mounted type of units."



J. C. Rowland, Rowland Appliance, Savannah, Ga. "It's the greatest feature yet! I increased my Mitchell order when I learned it takes no space in the room."

MITCHELL MFG. CO., DEPT. AC-2
2525 N. Clybourn Ave., Chicago 14, Illinois

Gentlemen:

Please send complete details about the all new 1954 MITCHELL line. Include information on how I can become a MITCHELL FRANCHISED DEALER and get full benefits of your Dealer Distributor Protection Plan.

Name.....

Store Name.....

Address.....

City.....

State.....

Phone, wire or write today for Mitchell's Dealer-Distributor Protection Plan

... a spectacular merchandising idea for inventory protection.

MITCHELL MANUFACTURING COMPANY 2525 N. CLYBOURN AVE. • CHICAGO 14, ILLINOIS
In Canada: Mitchell Mfg. Co. 19 Waterman Ave., Toronto, Canada



Air Conditioning Units—1½-20 tons
Multi-Packaged Systems—Up to 60 tons
Prop-R-Temp Heat Pumps—2-20 tons
Evaporative Condensers
Packaged Water Chillers

TYPHOON AIR CONDITIONING CO. INC.
794 Union Street, Brooklyn 15, N. Y.

What's New

When requesting further information on new products, please use "Information Center" form.

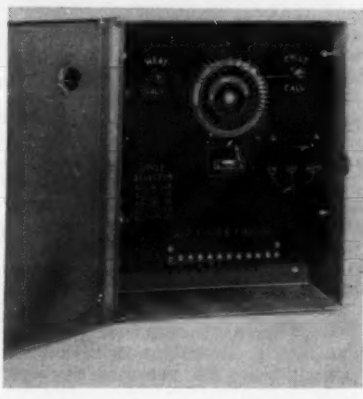
Tork Heating Control Has Outside Weather Head



KEY NO. D-110

MT. VERNON, N. Y.—The "Tork Weather Control," a combination of an inside control panel and an outside weather head, that automatically regulates the heating of any building, has been introduced by the Tork Clock Co. here.

Since room thermostats cannot control large heating systems satisfactorily, Tork claims its indoor-outdoor control combination is the only really efficient method of providing heat in any building using automatic gas, oil, or coal heating.



Tork Weather Control automatically watches and records outside weather, inside temperature, sun effect, wind velocity, hot-water supply, chimney draft . . . all at the one time.

Tork Weather Control times heat to the weather and synchronizes heat output to the actual demands of the weather. All waste caused by supplying more heat than necessary is eliminated.

Heat is cycled on the inside control panel according to outdoor temperature and indoor building satisfaction. The weather control starts and stops

the heating plant at pre-selected intervals on the 24-hour dial.

Setting of the cycle tabs and limit control assures rapid morning pick-up and heat throughout the system until night shutdown. Once set, the controls need no further adjustment. Panel signal lights constantly indicate proper and current operation to attendants.

For summer use, the "Off" position allows the system to provide hot water, without building heating. An omitting device, for automatically skipping days on which buildings may be closed, is optional equipment. The unit, for line voltage only, is available in 115 volt-60 cycle and 208-230 volt-60 cycle models.

Torrington Develops Neoprene Fan Hub

KEY NO. D-111

TORRINGTON, Conn. — The Torrington Mfg. Co. announced development of a new Neoprene fan hub for use on shaded pole motors. This hub is a great improvement over previous designs because of its greater flexibility, the company said.

The hub acts effectively, not only as a means of minimizing motor noises, but also for the general reduction of noise throughout the system as well as the fan itself.

Commenting on the new development, Dudley B. Robinson, vice president, said: "Because of the many shaded pole motors used throughout the air moving industry, and its relatively higher noise level, we feel that this Neoprene fan hub is a significant contribution."



30-In. Range Features 24-In. Wide Oven

KEY NO. D-112

CHICAGO—A 30-in. electric range with 24-in. wide oven has been introduced by the Crown Stove Works here.

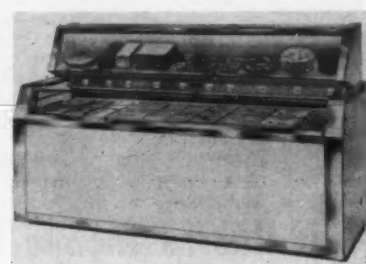
Called the "Space Saver 30," the deluxe range has a divided top cooking surface with four units and a full-width storage drawer below the oven.

The two rear surface units are 8 in. in diameter and are rated at 1,250 watts. The left front unit also has an 8-in. diameter but is rated at 1,450 watts. The right front unit is 10 in. in diameter and rated at 2,100 watts. Both bake and broil oven units are rated at 2,700 watts, giving the range a total connected load of 12,135 watts. All surface units have 7-heat Monotube coils.

The chrome trimmed back panel contains a fluorescent lamp, automatic oven control clock, and an electric appliance outlet. Operating controls are located on the front of the range just above the oven door. Indicator lights show when either the surface units or oven are on.

The 24 by 14 by 18-in. oven is lined with porcelain enamel and features non-tilt oven racks mounted on removable side racks for easy cleaning.

The entire range, including handles, takes up 30 by 26 1/4 in. of floor space. The working surface is 36 in. high, while over-all height is 45 in.



Schmidt Announces Case For Frozen Baked Goods

KEY NO. D-113

CINCINNATI—A new self-service frozen food case designed especially for merchandising frozen baked goods has been announced by The C. Schmidt Co. here.

The case consists of a low-temperature cabinet for the display of merchandise in boxes, and an upper unrefrigerated display section for unfrozen, unwrapped merchandise.

The freezer is 8 ft. long, 34 in. wide, and 3 ft. 4 1/2 in. high. The full-length unrefrigerated section is 15 1/2 in. high and deep.



Stop service calls . . . keep out rust and sludge . . . open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

Filtrine MANUFACTURING CO.
BROOKLYN 38 • N. Y.
"Water Coolers and Filters for 40 Years"

ANOTHER CASE OF

Copper

WHERE IT COUNTS

4,800 FEET OF TYPE "L"
REVERE COPPER WATER TUBE,
IN SIZES FROM 1" TO 6"
USED IN AIR
CONDITIONING SYSTEM OF
U. S. Fidelity and
Guaranty Company Bldg.
Baltimore, Md.

Take a good look at the two photographs below. Then visualize this same installation made with threaded fittings and think of the time that would have been consumed running these lines. No wonder more and more copper tube is being used for air conditioning, water and waste lines.

You don't have to worry about wrench room in the tight corners, solder joints are made much faster, present a much cleaner appearance. And you need never worry about replacing copper tube due to rust, for copper can't rust. There is no loss of flow or pressure, no allowance in pipe size need be made for rust accumulation with Revere Copper Water Tube. There are fewer fittings, too, on the long runs, as Revere Copper Water Tube comes in straight lengths of 20' in hard and soft tempers and 60' coils in soft temper. It's easy to bend, too.

Keep out of trouble, protect your reputation for quality work, with copper. Use Revere Copper for air conditioning lines, radiant panel heating, hot and cold water lines, underground service lines, waste stack and vent lines, processing lines. See the Revere Distributor nearest you today. And, if you have a technical problem, he will put you in touch with Revere's Technical Advisory Service.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.
Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

(Below)

FRONT VIEW of air conditioning system showing the neat-appearing, non-rusting Revere Copper Water Tube. Photo shows system before it was put into operation and before cold water lines were insulated.

(Above)

REAR VIEW of system which air conditions the entire building of 9 floors, and has a capacity of 150 tons. Cooling tower is located on roof. System was completely installed by H. E. CROOK COMPANY, INC., Plumbing, Heating, Electrical and Air Conditioning Contractor. Tube was supplied by Revere Dist., J. T. ROBERTS & BROTHER, INC., both of Baltimore.

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

What's New or Current Literature Available

Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.

Products Advertised

(list name, page, and issue date)

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AIR CONDITIONING & REFRIGERATION NEWS
Reader Service Dept.
450 W. FORT ST. DETROIT 26, MICHIGAN

What's New (Con't)



Gas-Fired Unit Heater Developed by Carrier

—KEY NO. D-114—

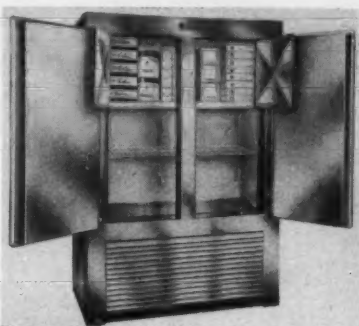
SYRACUSE, N. Y.—Development of a new, compact, gas-fired unit heater, designed to meet the increasing demand for equipment combining maximum capacity with limited installation space requirements is announced by Carrier Corp. for immediate distribution.

The new unit is 23 in. high, less than 23 in. deep, including fan and motor assembly, and 19½ in. wide, and has a capacity of 50,000 B.t.u. per hour. It is particularly suitable for those spaces where headroom is at a premium. The heater couples efficiency and economy of operation with modern styling.

Gas is fired directly in the tubes of an all-welded heat exchanger of sturdy, one-piece, gas-tight construction. The heat exchanger is made of 16-gauge corrosion-resistant aluminized steel, an exclusive Carrier feature. The special composition of the exchanger is molten aluminum permanently bonded to both sides of low carbon steel by a patented process. Aluminized steel will withstand temperatures up to 900° F. without discoloration and up to 1600° F. without destructive scaling.

Enclosed in a gray baked enamel casing, the new heater provides heat quickly and automatically.

The new Carrier unit heater is approved by the American Gas Association for use with all types of gas.



Silco Rivets Cabinets, Uses Capillary System

—KEY NO. D-115—

BROOKLYN—A new line of commercial reach-in refrigerators featuring a capillary refrigeration system and riveted cabinets has been introduced by Silco Products Div. of Silver Refrigeration Mfg. Corp. here.

The line includes four self-contained reach-ins ranging in size from 20 to 45-cu. ft. capacity, 47 and 70-cu. ft. remote refrigerators and dough retarders, and a two-temperature reach-in (12-cu. ft. normal temperature, 8-cu. ft. freezer) that is claimed to be the only one with automatic defrost.

Condensate evaporates automatically in all the self-contained models, according to the company, eliminating the need for drain connections.

Cabinets are mounted on a 3-in. 16-gauge base. Sides, top, and back are polished aluminum. All doors and front are 20-gauge stainless steel. All door and top corners are rounded, welded, and polished. Interior is aluminum, surrounded by 3 in. of rigid high density glass fiber.

Interiors are equipped with a ceiling mounted Kramer blower coil to maintain high humidity and all copper and zinc-plated shelves mounted on clips and ½-in. adjustable slotted pilasters.

All door openings are faced with Panelyte breaker strips and equipped with light switches that operate automatically when door is opened or closed. Doors close on tubular rubber gaskets to prevent air loss. Chromium finished "through the door" locks and edgemoat hinges are used.

All self-contained models are equipped with Tecumseh hermetically sealed compressors.



Prefabricated Duct Fittings Snap Together Quickly

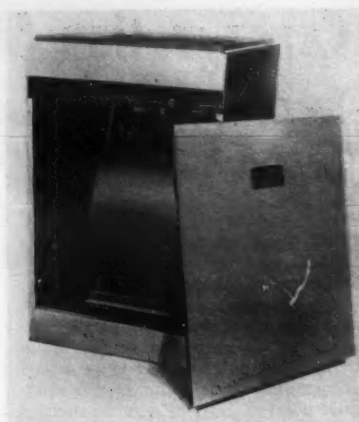
—KEY NO. D-116—

SPRINGFIELD, Mass. — Duc-Pac Div. of Swett Bros. here has introduced a completely re-designed line of its prefabricated duct fittings.

Made of galvanized metal, the knocked-down fittings feature "snap-together" assembly. The manufacturer points out that Duc-Pac's patented new inner-lock permits assembly of any fitting in a matter of seconds and eliminates the need for any "folding over" operation with a hammer. Neat appearance of the finished job is that of a tailor-made installation, he said.

Another advantage stressed by the manufacturer is the space saved in storing. Duc-Pac knocked-down fittings, packed 12 to a carton, require only about 10% of the space needed to store assembled fittings. In addition, they cannot become dented or shop-worn during storage.

An illustrated color bulletin describing the new line is available on request.



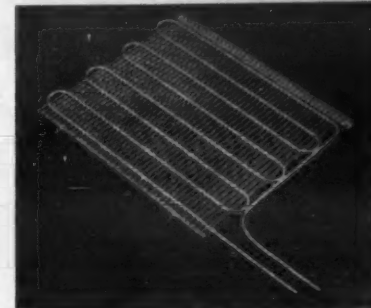
Filter Blower Converts Gravity Warm Air Plants

—KEY NO. D-117—

BUFFALO — A new low priced filter blower unit to convert existing gravity warm air heating plants has just been announced by the Firewel Co.

This unit can be used with coal, gas, or oil fired furnaces and consists of a squirrel type blower with filter. It is packaged in a baked enamel jacket, and is sold either with or without motor. It is built in 9-in., 10-in., and 12-in. sizes and is very easy to install, the manufacturer said.

It sells complete with motor for \$49.75 for the 9-in. size with additional jobbers and quantity discounts, the manufacturer added.



New Evaporator Shelves, Condensers for Uprights

—KEY NO. D-118—

ALBION, Mich.—Union Steel Products Co. here recently announced that it is manufacturing new type evaporator shelves and condensers.

Designed primarily for upright freezers, the new shelf features steel serpentine tubing within an electro-welded steel-wire structure "for maximum exposure of coil surface plus the greater protection of the serpentine coils," the company said. The USP arrangement is claimed to provide shelving rigidity, faster freezing, increased air circulation, and ease of cleaning.

"Surfaces of the coils are completely free from surrounding metal to permit maximum conduction and convection of heat—as well as the wiping action of air around the tubes," the company stated. "Union Steel tests indicate an unusually fast 'pull down' and freezing action because of the new type of wire and tube construction."



—Herbert Farnum, President
Long Island Canning Co.,
Riverhead, L. I., N. Y.

*"Our problem was processing
20,000 bushels of clams a year...
KELVINATOR lowered
our costs 75%!"*



"We handle about 60,000 bushels of clams a year—about a half million dollars worth. Two thirds are canned, and a third are frozen. We sell to restaurants, hotels, and institutions. Our success rests entirely on quality. Clams, however, are one of the most highly delicate foods you can process—freezing and maintenance of temperature must be right on the button, or else the flavor is affected."



"Believe me, we are more than satisfied with our Kelvinator set-up—the capacity turned out to be a good deal more than we had expected. Regardless of the weather, holidays and other uncertainties, we have complete protection—can store up to ten day's production. Processing clams formerly cost us four cents a pound—now they have dropped to one cent. The installation has turned out so well that we plan to double our frozen clam output during the coming year. This installation sure got our costs and production going the right way fast."

How Much Cooling Do You Need? No matter what your refrigeration requirements are, your Kelvinator engineer will give you installation the same careful analysis that was given this job. You can be assured he will recommend the unit that's just right for you. Contact your nearest Kelvinator Distributor or Zone Office for full information and prompt service.

Leaders in commercial
refrigeration for 39 years—

Kelvinator

Division of Nash-Kelvinator Corporation, Detroit 32, Mich.

*Mouldings are
Silent Salesmen*

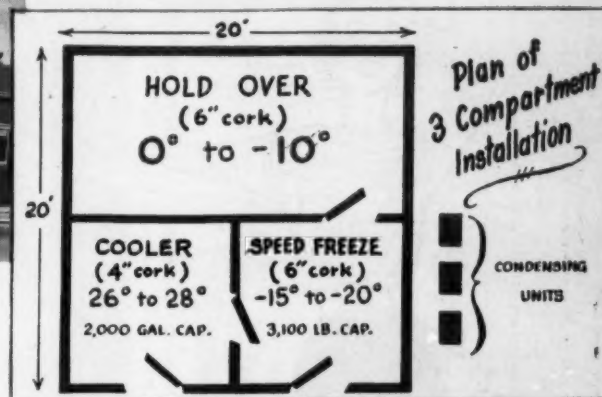
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MOULDINGS, STAMPINGS, ASSEMBLIES.
Complete Facilities for
Buffing, Electrolytic
Polishing, Welding,
Forming and Alumi-
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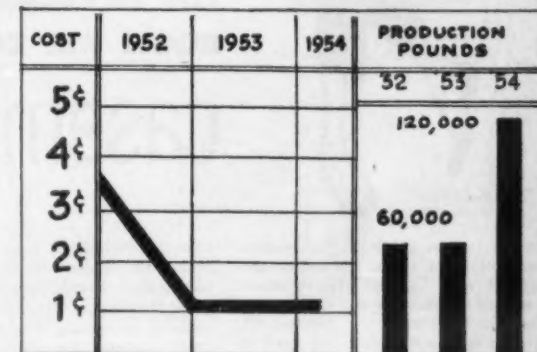
Mouldings by John Lees do a steady job of selling both before and after the sale is made. Stainless steel remains handsome, keeps your products looking good all the time. Let mouldings by John Lees help sell your product and keep it selling. Write for catalog.

JOHN LEES

DIVISION of THE SERRICK CORPORATION
Kilgore Avenue, Muncie, Indiana, U.S.A.



"Up 'til this year we had been shipping clams 10 miles to a public freezer, but early this year we decided to put in our own cooking, freezing, and storage equipment. Mr. Raymond P. St. Laurent, our Vice President, and I talked to a number of concerns, but we were most impressed by the understanding, analysis and engineering know-how of Jack Montgomery, partner in the South Shore Refrigeration Service, Bayshore, L. I., leading Kelvinator distributors. So we put in the installation he recommended."



Water Conservation Methods

4 Ways of Cutting Water Consumption In Residential Air Conditioning Systems Explained by Matthew Lawler of Worthington Corp.

HARRISON, N. J.—With a demand for 75,000 to 95,000 residential cooling systems predicted for 1954, the problem of solving water shortages may become increasingly acute, claims Matthew M. Lawler, vice president of Worthington Corp.'s Air Conditioning and Refrigeration Div.

Lawler feels that within the next few years, if the prolonged seasonal dry spells continue in so many parts of the country, many municipalities may have to follow the lead of New York, Miami Beach, Jacksonville, Wichita, and other communities in severely restricting the use of water for air conditioning consumption.

"Water Department officials have two varying opinions on the subject," says Lawler. "One group maintains it is their job to provide adequate facilities to meet the demand while the other group advocates the conservation of water as a valuable natural resource. Both groups are correct, depending upon their location and the availability of limitless water supplies."

When the home owner of a commercial establishment is faced with severe restrictions on the supply of water, then the problem becomes manifold and necessitates a cooperative effort toward solution, it was stressed.

According to Lawler, the air conditioning manufacturers are now working toward less expensive

water conservation devices. Meanwhile, users of water consuming air conditioners do have solutions to their water shortage problem.

"There are four methods available at the present time which will satisfy most water-conservation ordinances today, and at the same time affect a substantial saving in water costs," it was pointed out. "Each method has advantages and disadvantages as summarized below."

AIR COOLED CONDENSER

"Method 1. The air cooled condenser."

"For residential use, the air cooled condenser is the best solution to the problem. It is practicable for air conditioners up to 5 hp. and involves only one heat transfer."

"The equipment can be mounted next to an outside wall where proper intake and exhaust openings can be provided. In the residence utilizing the central utility room, an attractively designed miniature penthouse or bubble on top of the building could provide air intake and exhaust for an air cooled condenser intentionally located high in the manufacturer's year-round heating-cooling package."

The disadvantages of this method, which in most cases will be offset by the advantages, are that air must be ducted in and out; a suitable location must be found next to an outside wall; and the fan noise may be

found objectionable by some users.

FAN COIL UNIT

"Method 2. The fan coil unit."

"This is a water cooling unit which may be located wherever desired, except that it should be accessible."

"No makeup water connection is needed. The contents of the water system can be given an initial treatment to inhibit corrosion and prevent freezing. In-frequent lubrication of the fan, pump, and motor, and cleaning of the coil faces are necessary."

"The efficiency of this method is slightly less than for the air cooled condenser method."

COOLING TOWER

"Method 3. The cooling tower."

"The need for water saving devices in regions such as the southwest, has been met by local lumber companies who sell kits of the redwood parts necessary to construct such a tower. The builder installs a pump and pipes it from the water tower sump to the water cooled condenser of the air conditioner, and thence to the spray nozzles at the top of the tower."

"There are two types of cooling towers: natural draft and mechanical draft. Mechanical draft cooling towers involve the use of a fan, and fan noise must be considered in selecting its location."

"Consideration of accessibility for



HEAT PUMP PROMOTERS at the South Texas State Fair gather in the booth of H. H. Sanders & Sons, Westinghouse air conditioning dealer. Included in the group are representatives of Sanders & Sons, Natkin & Co., and Gulf States Utilities—all active heat pump enthusiasts. The heat pump shown is a Westinghouse 5-hp. unit.

service also should be given when selecting location, as it is necessary to lubricate the fan, pump, and motor bearings, prevent stoppage of water filters and spray nozzles by dirt and leaves, provide regular water treatment to prevent corrosion, and shut down and drain the tower in winter to prevent freezing.

EVAPORATIVE CONDENSERS

"Method 4. Evaporative condensers."

"Although the evaporative condenser is more efficient than the other methods listed, it is less desirable for residential applications because it combines the disadvantages of all of them."

"The disadvantage of remote location, making impossible the factory

assembled package, may, of course, be overcome by building the evaporative condenser into the residential unit as has been done in some packaged units on the market, and arranging to duct outdoor air to and from the unit," it was further pointed out.

"When this is finally accomplished, one has only the advantage over the air cooled condenser method of a little better refrigeration system efficiency. The disadvantages of maintenance of a water treatment facility, water filter and nozzle cleaning, winter draining and spring refilling operations remain."

"In the larger units for commercial establishments, however, these disadvantages become less important to the greater advantages of increased refrigeration efficiency."

~~hundreds thousands~~ millions
OF ADDITIONAL PROSPECTS NOW CREATED
FOR ROOM AIR CONDITIONING...



announcing
THE REVOLUTIONARY NEW CHRYSLER AIRTEMP
ROOM AIR CONDITIONER FOR
casement windows!

It's the first of its kind! It's the product which millions of people in homes and apartments with casement type windows have needed to enjoy the health and comfort benefits of room air conditioning. It's the Room Air Conditioner you need to spearhead the most profitable selling season you have ever known!

Here is a Room Air Conditioner of genuine Chrysler Airtemp quality throughout—designed for quick, easy installation in

casement windows. Unit is mounted entirely from inside—the same way a screen is installed. Nothing projects outside window frame to interfere with opening, closing or locking of window. And this new casement type unit, just like all of the other Chrysler Airtemp models, gives you the selling advantage of advanced engineering features which mean more to the prospect—in terms of efficient, dependable, economical air conditioning.

Now, more than ever before, it will pay you to become a Chrysler Airtemp Dealer. Send coupon today for complete details of the greatest money-making opportunity in the history of room air conditioning!

Airtemp Division, Chrysler Corporation AC&RN-1-54
P.O. Box 1037, Dayton 1, Ohio
Yes, we're interested in the most profitable dealer's deal in Room Air Conditioning—send complete details.
Name _____
Address _____
City _____ Zone _____ State _____

CHRYSLER AIRTEMP
AIR CONDITIONING for HOMES, BUSINESS, INDUSTRY
Airtemp Division, Chrysler Corporation, Dayton 1, Ohio

St. Louis Air Conditioning Firm Concentrates On Model Houses, Large Home Developments

ST. LOUIS — The fact that St. Louis has experienced two of the hottest summers on record in succession, plus expert salesmanship, has landed for Henry Weis, Jr., Inc., commercial refrigeration and air conditioning dealer here, some of the largest home cooling contracts.

Henry Weis, Jr., head of the firm, recently expanded his services in the field of "comfort engineering" to include G-E heating and air conditioning, and has concentrated on model home promotion in newer residential districts on the western side of the city.

Because nearly 65,000 people visited one air conditioned model home during the year, Weis successfully sold combination air conditioning and automatic heat to the contractors on a long list of major housing developments and the impressive total marks a new high in scheduled home air conditioning for the area.

One project of 156 houses includes complete year-round air conditioning, while in another larger-home development, Weis sold contractor and homeowner alike on the installation of

5-ton central units. South of this, where another 40 homes are being built, the firm is installing 43 package units as a direct outgrowth of the first installations.

Where the building contractor does not install air conditioning immediately, there is still the possibility of "roughing in" for future installation and offering it as an "optional," Weis has found.

Although he was unable to get a contract on another 178-home development, Weis was successful in making air conditioning optional. Approximately 4 out of 5 homeowners, after moving in, went ahead with air conditioning installations. Three more projects, one of 250 homes, including optional installations, are currently being built, including an 88-unit development in Maplewood, all of which will be air conditioned, and still another near Kirkwood.

When all of these developments are complete, St. Louis will rank high in the nation for the number of air conditioned homes available, Weis points out.

Trion Executive Predicts That 10% of Air Conditioned Homes Will Have Electronic Filters In Next 5 Years

McKEES ROCKS, Pa.—The next five years will see a boom in the sale of "electronic air cleaners," says John D. Meyer, sales manager of the Appliance Div. of Trion, Inc., manufacturer of a complete line of residential electronic air cleaners.

Riding on the heels of air conditioning, he estimated that at least 10% of the homes in which central air conditioning is installed will be equipped with electronic air cleaners. The American Institute of Management estimates that there will be 2,000,000 homes with central air conditioning by 1958; this would mean at least 200,000 electronic air cleaners would be installed by that time, Meyer said. In 1954, best indications are for 120,000 central home air conditioning installations, which would mean 12,000 electronic air cleaners.

Trion already has thousands of home installations in scattered areas of the country with a concentration of around 4,000 units in the western

Pennsylvania area, according to Meyer. Currently, the company is expanding distribution in every principal market.

The dry type, mechanical filters usually furnished with heating and air conditioning equipment are only 10-15% efficient, Meyer said, whereas, the electronic air cleaner is from 90-100% efficient in removing all particles, even submicroscopic bacteria and cigarette smoke.

The electronic air cleaner charges all particles positive and then collects them on negative plates. The Trion unit has a built-in water wash which washes the collected impurities on the plates right down the drain.

Meyer stated that 10% is a modest percentage for the addition of electronic air cleaning to year-round air conditioning. He predicted that within the next ten years, no home over \$10,000 will be built without year-round air conditioning and electronic air cleaning.

Service & Supplies

Wholesalers' Sales Show Gain In First 10 Months, Inventories Also Indicate Rise

WASHINGTON, D. C.—October sales of refrigeration equipment and parts wholesalers advanced 8% compared with the like 1952 month but were down 3% from September, according to the Bureau of the Census.

Electrical appliance and specialty wholesalers' sales in October dipped 10% below the corresponding month of last year and 4% below September.

For the first 10 months of the year, sales of refrigeration equipment and parts wholesalers were 15% ahead of the comparable year-ago period, and those of appliance and specialty wholesalers were up 8%.

October sales of all wholesalers reporting to the Census Bureau showed no change from the previous month. Compared with a year ago, sales

were down 6%, reflecting for the first time in 1953 a decline from year-ago sales. However, cumulative sales for the first 10 months were 4% higher than for the same period of 1952.

Inventories of refrigeration equipment and parts wholesalers at the end of October were up 5% from a year ago and down 4% from Sept. 30. Those of appliance and specialty wholesalers increased 47% compared with stocks on hand Oct. 31, 1952, and gained 1% compared with end-of-September inventories.

Inventories of all wholesalers as a group at the end of October were up 1% over stocks on hand Sept. 30 and were 10% above the inventories of Oct. 31, 1952.

Sales

Kind of Business and Geographic Division	Per Cent Change			Oct. 1953 Panel	No. of Firms Report- ing	Reported Dollar Values (add 000)
	—Oct. 1953— from		10 Mos. 1953			
	Oct. 1952	Sept. 1953	10 Mos. 1952			
Appliances and specialties wholesalers	-10	-4	+8	108	25,109	
New England	-3	+6	+16	15	2,619	
Middle Atlantic	-15	-10	+8	21	9,150	
East North Central	+4	-3	+17	16	4,071	
West North Central	+15	+8	+22	11	1,777	
South Atlantic	-28	-11	0	21	3,029	
South Central	-20	-5	-1	11	1,471	
Mountain	-22	0	+3	6	814	
Pacific	+19	+19	+5	7	2,178	
Refrigeration equipment, parts (com'l)	+8	-3	+15	76	2,142	
Middle Atlantic	+2	-17	+16	14	597	
East North Central	+18	+3	+10	18	297	
West North Central	0	+1	+21	5	238	
South Atlantic	+6	-1	+15	24	604	
South Central	+5	+8	+12	4	169	
Pacific	+33	+22	+8	10	199	

Inventory, End-of-Month (At Cost)

Kind of Business and Geographic Division	Per Cent Change		Oct. 1953 Panel No. of Firms Reporting	Reported Dollar Values (add 000)
	Oct. 1953 from			
	Oct. 1952	Sept. 1953		
Appliances and specialties wholesalers	+47	+ 1	88	28,990
New England	+35	+ 4	12	2,240
Middle Atlantic	+58	+ 4	17	9,348
East North Central	+59	- 3	11	3,826
West North Central	+22	- 1	9	2,518
South Atlantic	+53	- 4	20	4,987
South Central	+28	+ 2	9	2,577
Mountain	+25	0	6	1,639
Pacific	+70	+ 9	4	1,855
Refrigeration equipment, parts (com'l)	+ 5	- 4	66	4,165
Middle Atlantic	+ 7	- 8	11	893
East North Central	+18	+ 8	13	709
West North Central	-16	- 8	5	384
South Atlantic	+ 9	- 5	24	1,468
South Central	•	•	•	•
Pacific	- 5	- 5	9	398

*Insufficient data to show separately.

'If We Can't Service It, We Won't Sell It'

Appliance Customers Get Assurance From Dealer In 'Open Letter' Type Ad

TWIN FALLS, Ida.—"If we can't service it we won't sell it."

That was the unique theme of an "open letter" to customers of the Reiser-Cain appliance firm located here.

In a newspaper display advertisement the open letter was addressed to appliance customers in the Twin Falls area and was signed by Elvis Cain.

Theme pointed out the importance the firm attaches to a fine service shop in connection with their appliance sales.

Letter read in part: If we can't service it we won't sell it, and this has been our slogan for the past eight years of selling and servicing appliances, eight years in which we have grown from the bottom to one of the largest appliance stores in the state.

"While we feel that there may have been times during this past eight years that some of our service personnel did not render you the quality service we expect to give, we are always striving to improve our service department."

"We now have seven full time service men and have just remodeled and enlarged our department and put in new equipment," the advertisement continued.

"Due to the large volume of business we have and the large territory we cover, we have a regular schedule for our service crew which includes

at least one trip to each part of the surrounding area every week."

The ad included the six day schedule of the appliance firm's service truck, pointing out to customers exactly when they can expect to see the Reiser-Cain appliance service truck in their area.

Swift Named Field Engr. By Spencer Thermostat

ATTLEBORO, Mass.—H. M. Steel Swift has been named field engineer for the New England area by the Spencer Thermostat Division of Metals & Controls Corp.

Swift is a graduate of the U. S. Naval Academy, class of 1937, and is a former Navy PT boatsquadron commander with the rank of Lieutenant Commander.

He was previously in charge of production and sales for Standard Thermometer, Inc., in Boston. His new duties will include application engineering of Spencer products, which include Klixon controls and electrical protective devices, according to the announcement.

SLANTS on Service

"Slants on Service" is a handy "package" devised by the NEWS for its busy readers.

Moisture Removed from Big System by Freezing

Removing moisture from a system so large that you can't afford to dump the refrigerant and oil charge can be accomplished by deliberately freezing it out, John Spence, Hussmann service manager, points out.

A refillable dehydrator is filled with steel wool and a coil wrapped around the outside. The coil is refrigerated by means of a small unit, the system employing an automatic expansion valve so set that the coil and drier shell will get as cold as the capacity of the small condensing unit permits.

The dehydrator, of course, is hooked into the line of the large system to be dried. With the small unit operating, refrigerant in the large system is allowed to flow through the steel wool in the dehydrator shell.

The moisture will freeze out at the wool.

Let the system run this way for 24 to 36 hours, Spence further advises.

It is necessary to pump down the main system before installing, and also before removing, the freezing device. Afterwards a conventional drier should be installed, Spence says.






AMMONIA VALVE
Soldered Bonnet—screw or flanged connections. Also with screwed bonnet, sizes 1" and under.

PACKLESS VALVE
With balanced-action

WING CAP VALVE
Non-ferrous

WING CAP VALVE
Semi-steel—with companion flanges and adapters



you pay—
no premium for..
the extra advantages
found in
Henry products
or for the extra satisfaction
that follows their use




STRAINER
Angle type with patented distortion-proof flange

Y-STRAINER
Brass plated. Welded steel construction with forged brass connections. Size 1/4" O.D. 1/2" through 4 1/2" O.D.S.




BALANCED-ACTION PACKLESS LIQUID LEVEL GAUGES
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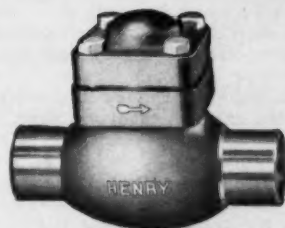
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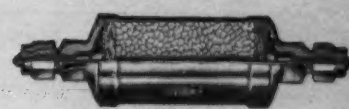
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Operation, Servicing of Air-to-Air Heat Pump

By J. W. Hensel, Products Service, Weathertron Department, Air Conditioning Div., General Electric Co.*

The detailed subject matter presented will deal almost completely with the General Electric Weathertron, which is an air-to-air heat pump.

As practically all heat pumps now being marketed operate on the same basic principles, understanding one will give almost a complete understanding of all.

The refrigerant circuit is simple and consists of nothing more than an air-cooled air conditioner with a few trimmings to reverse the function of the coils so the conditioned space can be either heated or cooled by the same coil. The electrical circuit is slightly more complex, but there is a definite simple sequence that it follows. We have found that once this sequence is understood, it becomes a very simple matter for anyone to service the equipment.

Understanding is the main problem on either circuit (refrigerant or electrical), which is actually true on almost any type of equipment. Our belief is that the air-to-air heat pump is simpler to apply, service, and maintain than any other year-round air conditioning system and particularly those systems using cooling towers.

To help in this necessary under-

*Presented before the 16th annual international convention, Refrigeration Service Engineers Society, Cleveland.

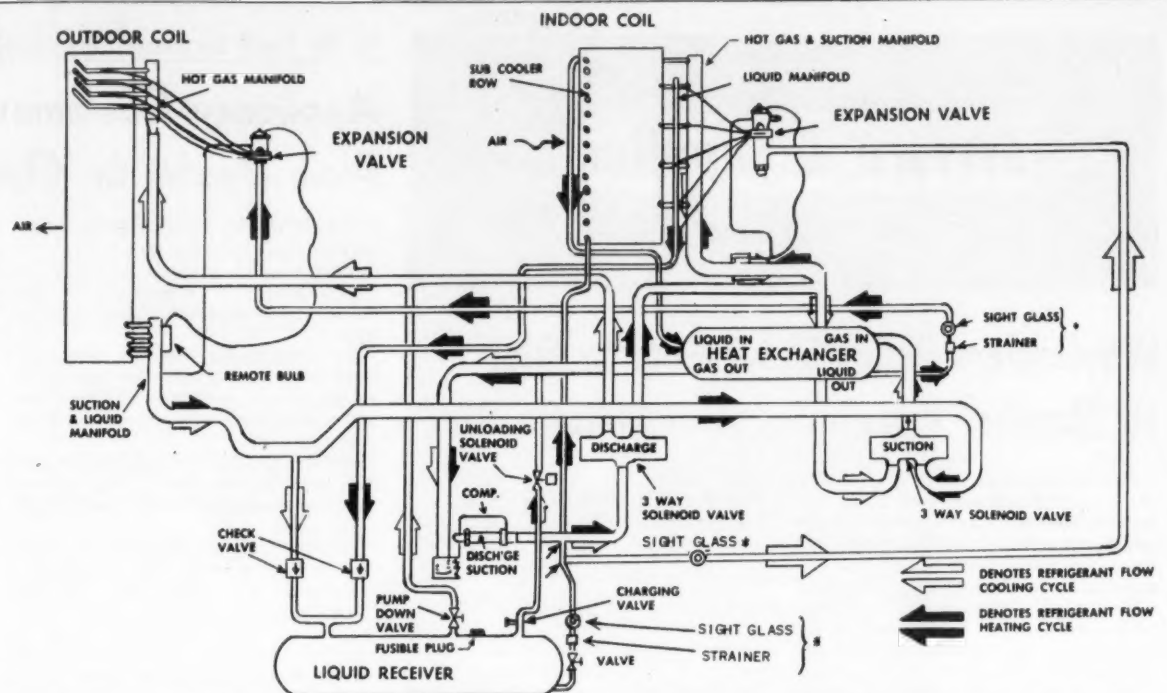
standing, I will go through a detailed discussion of the refrigerant flow and electrical sequence, and then point out some of the service problems which are particular to the heat pump which do not appear in normal refrigerant circuits.

REFRIGERANT CIRCUITS

Starting with the gas being compressed, we will trace it through a complete circuit.

A. Heating Cycle

1. The hot gas from the compressor flows through the service valve to the three-way discharge solenoid valve.
2. With the electrical controls calling for heating the valve is positioned to channel the gas to the indoor coil.
3. The indoor coil acts as a condenser during the heating cycle. The indoor air passing over the coil absorbs the latent heat of vaporization and some sensible heat from the refrigerant which condenses from a gas to a liquid. This warmed air provides the means which heats the home or conditioned space.
4. The liquid refrigerant collecting in the coil flows through the check valve into the liquid receiver.
5. From the receiver the liquid refrigerant flows through the liquid valve to the subcooler row on the



FLOW chart shows refrigerant flow in both heating and cooling cycles of General Electric Weathertron packaged air-to-air heat pump.

indoor coil. In passing through the coil the liquid gives up some heat to the indoor air entering the coil. This heat transfer boosts the capacity of the system.

6. From the sub-cooler the liquid refrigerant moves to the heat exchanger where it gives up some more heat to the suction gas, which later shows up in the indoor coil as additional capacity.

7. Following the heat exchanger, the flow is to the expansion valve on the outdoor coil. (The same liquid pressure is directed to the expansion valve on the indoor coil, but no liquid flows through this valve because the discharge pressure is applied in the coil. This pressure is slightly higher than that of the liquid.)

8. The refrigerant is metered into the outdoor coil which acts as an evaporator extracting heat from the outdoor air passing over the coil.

9. The refrigerant in the form of gas leaves the outdoor coil and is channeled to the three-way suction gas solenoid valve.

10. The electrical controls position the three-way valve so the gas flows to the heat exchanger.

11. From the heat exchanger the refrigerant gas returns to the compressor which compresses the gas for a new cycle.

B. Cooling Cycle

1. The hot gas from the compressor flows through the service valve to the three-way solenoid in the discharge line.

2. With the electrical contacts calling for cooling, the valve is positioned to channel hot gas to the outdoor coil.

3. This coil acts as a condenser during the cooling cycle. The hot gas is condensed to a liquid by the outdoor air passing over the coil.

4. The liquid refrigerant collecting in the coil flows through the manifold and check valve into the liquid receiver.

5. From the receiver the refrigerant flows to the expansion valve of the indoor coil.

6. The expansion valve meters liquid into the indoor coil which now acts as an evaporator. The inside air passing over the coil is cooled by the evaporating liquid refrigerant, thus providing the cooling effect of the system.

7. Refrigerant leaving the indoor coil is in gaseous form and flows to the three-way suction solenoid valve.

8. The three-way valve is positioned by the electrical controls to channel gas to the heat exchanger and hence to the compressor. During the cooling cycle no liquid refrigerant flows through the heat exchanger hence no heat transfer takes place at this point.

9. The compressor compresses the gas for another cycle.

C. Defrost Cycle

While the Weathertron is operating on the heating cycle, frost and ice can build up on the outdoor coil under certain atmospheric conditions. This condition exists when the outdoor air temperature is below 40° F. with a high relative humidity. Moisture condensing on the coil, which is below the freezing point, causes a build up of frost and ice on the coil.

When an excessive amount has built up the defrost switch is actu-

ated and the unit starts a defrost cycle. During a defrost cycle the electrical controls operate the heat pump on a refrigerant cycle the same as described for cooling. The only difference in performance is that the outdoor fan is shut off. This allows all the heat in the hot gas to perform the useful work of melting the ice rather than being dissipated to the outdoors.

ELECTRICAL CIRCUIT

When switching from one cycle to another there is always a definite sequence of changes accomplished by the electrical controls. These are 1. unload; 2. switch refrigerant valves; 3. start the proper cycle. We will go through these steps in the following discussion:

Heating Cycle

We will assume the unit was last on cooling and now we are calling for heating. The latch relay is in the unlatched position (normal) as this is the cooling position.

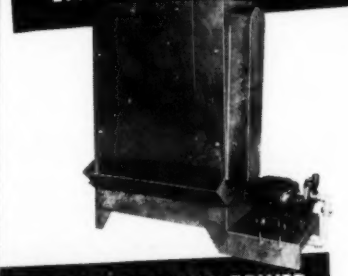
Q. What is the latching relay?

A. It is a memory control to tell the Weathertron which cycle it was last operating.

When the thermostat TS-1 closes, power is supplied to the heating relay H and all of its contacts close (H-1 & H-2). When H-2 closes, there is no power in this circuit; therefore nothing happens. When H-1 closes power is supplied to the unload valve and the unload timer motor.

When the pressure difference is down to 15 p.s.i., the pressure difference switch PD closes, but again nothing happens at this time as there is no power in the circuit. At the end of 80 seconds the unload timer motor contacts UT-1 close and power is supplied to the switchover valves SH positioning the valves for heating and at the same time switching the latch relay L.

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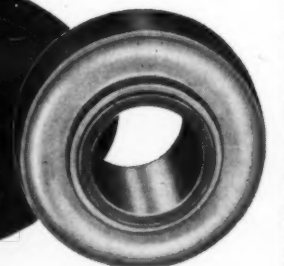
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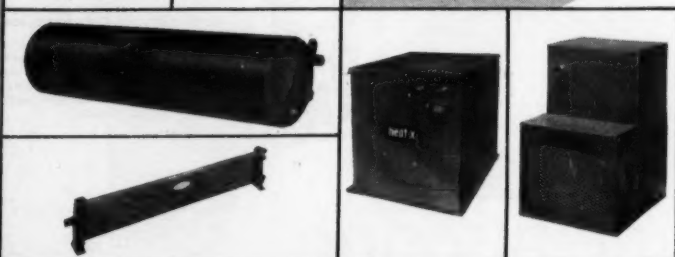
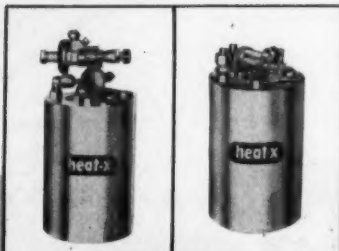


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Air-To-Air Heat Pump--

(Concluded from preceding page)
difference switch. When a pressure difference of 35 p.s.i. is reached the PD switch opens and power is removed from the SH and L coils.

Defrost Cycle

When ice builds up on the coil, the static pressure defrost switch SP is closed due to the increase of static pressure across the outdoor coil. This switch (SP) in turn supplies power to the heater coil of the gust time delay switch TDS. When the TDS coil has been energized for approximately 30 seconds, TDS-1 closes and a circuit is completed to the defrost relay coil D. When the D coil is energized, all the D contacts change position. As several things happen at the same time, we will look at the contacts to see what function each serves.

When D-3 opens the unit is stopped as the heating relay H is de-energized which in turn drops out the line starter. D-3 closing on the other side bridges around the thermostat and energizes the cooling relay which in turn starts the unit with the same procedure (unload, switch, and start), as mentioned before. The only difference being the cooling relay switchover valves and unlatch coils are energized rather than the heating.

The unit starts to operate on a cooling cycle, but since the D-2 contact has changed position the outdoor fan will not run; therefore, all the condenser heat goes into the useful work of melting the ice from the coil.

When D-2 switched position a circuit was also made through the defrost pressure switch to the defrost relay coil. When the unit stopped the static pressure difference switch to

the defrost relay coil. When the unit stopped the static pressure difference across the coil was zero, therefore SP opened and TDS cooled, opening TDS-1, but the circuit through D-2 and the defrost pressure switch (PS) keeps the defrost relay coil energized.

As the unit starts to operate the head pressure builds up and when it reaches a predetermined value, PS opens which drops out the "D" relay coil and control is returned to the thermostat. Since the thermostat was still calling for heating the unit goes back to a heating cycle the same as previously described.

Switching from cooling to heating is almost the same procedure as described in going from heating to cooling except the sequence is now: 1. cooling relay; 2. cooling contact C-1 and C-2; 3. unload timer and unload valve; 4. switchover valves (SC) and unlatch coil (UL); 5. start unit.

Supplementary heaters are brought on at any time the house temperature drops $1\frac{1}{2}^{\circ}$ below thermostat setting by closing TS-3 which in turn energizes the AH relay and completes the circuit to the supplementary heaters if the outdoor temperature is below 43° F. This outdoor thermostat is to prevent heater from coming on during mild weather when someone turns up the thermostat rapidly. The heaters are also brought on during defrost cycle to temper the air entering the room as we are operating on a cooling cycle.

SERVICE

The majority of service on this type of equipment is of the simple refrigeration type, but there are a few differences which should be pointed out. By understanding the relay sequence and understanding the

wiring diagram, practically all of the electrical troubles can be resolved as you can see just how far you have gone in the sequence; therefore, the trouble is pointed out.

Check valves sticking open will tend to lower the head pressure and raise the suction and greatly reduce the capacity of the machine; sticking closed will tend to pump the machine down and all the refrigerant will be in the condenser rather than in the receiver.

If the unload time is set too short, it is possible to have the unit calling for one cycle electrically and operate on the other refrigerant-wise. This is caused by too great a pressure difference across the switchover valves when they are energized, therefore the electrical pull will not overcome the refrigerant pressure.

These two service problems are very infrequently faced, but service personnel should be aware of them.

All high to low side components (check valves, three-way valves, expansion valves, and compressor valves) can be checked by pumping down on first one cycle and then the other. If no pressure rise is noted on either cycle, then you know all components are holding as they should.

We have provided a perforated plate to tape over the face of the coil to simulate ice so the defrost switch can be set at the time of installation rather than waiting for ice to form, thereby eliminating call-backs to set this switch.

Air flow is highly important to capacity and we find one of the best indications of this is to check fan amperage or wattage. This can be done easily in the field.

We try to give as much help as



Service & Supplies

Koski Heads New Branch Of Drayer-Hanson In N.Y.

LOS ANGELES—A. L. Hanson, vice president and general manager, Drayer-Hanson, Inc., has announced the establishment of regional branch offices in the Architects building, 101 Park Ave., New York City.



At the same time, Hanson announced the appointment of Gene Koski of Mount Vernon, N. Y., who will head up the new Drayer-Hanson eastern facility.

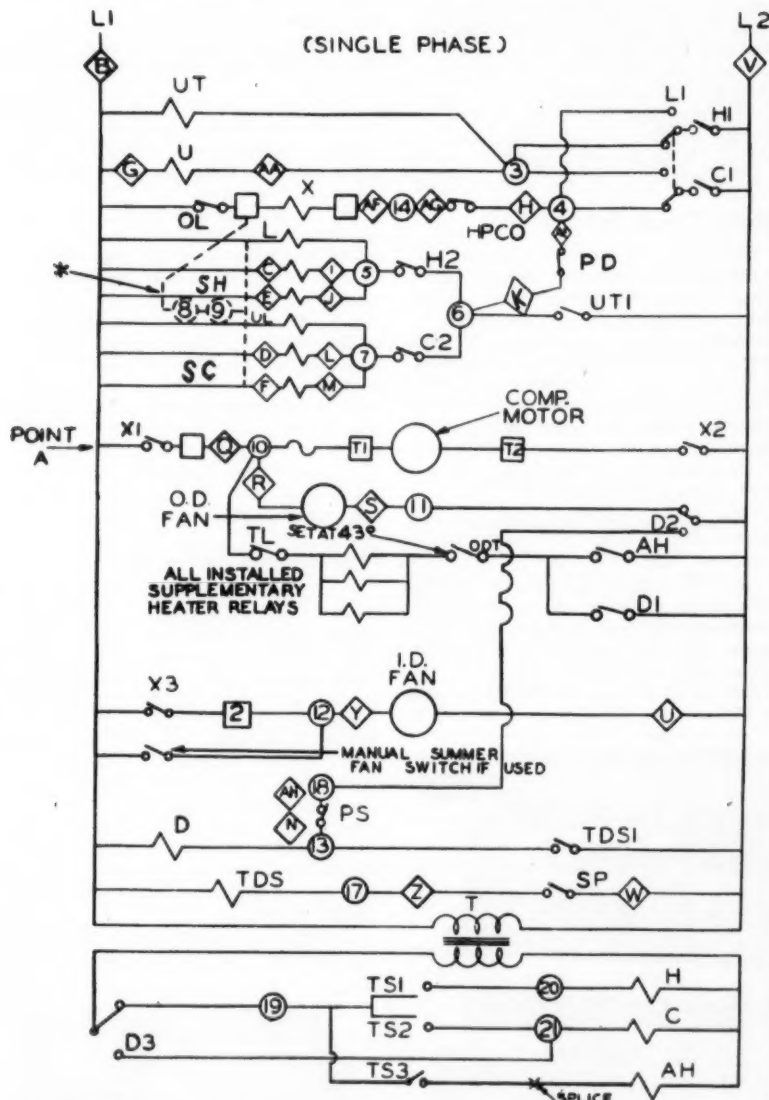
Drayer-Hanson, with 30 factory representatives in key areas throughout the country, plans other branch offices which will soon be announced.

Koski, with considerable experience in the air conditioning field, was educated at M.I.T., New York University's College of Engineering, and the Graduate School of Business Administration.

Western RSES Group To Meet March 26-28

EUGENE, Ore.—Fifth annual convention of the Western International Association of RSES, comprising seven chapters in the Pacific Northwest, will be held March 26 to 28 in the Eugene hotel here.

Several educational talks and social events have been programmed by the Webfoot chapter, which will be host for the convention.

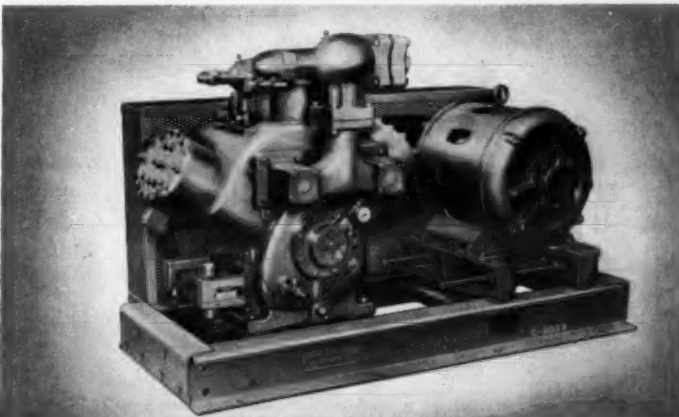


WIRING diagram of G-E Weathertron heat pump. Key to letters and symbols follows:

- | | |
|---|--|
| T—Transformer. | AH—Control relay, second step, heating. |
| HPCO—High pressure cut-out. | H—Heating relay. |
| L—Latching relay. | C—Cooling relay. |
| OL—Overload relay. | D—Defrost relay. |
| U—Unloading valve. | TL—Thermal limit supplementary heater. |
| UL—Unlatching coil. | ODT—Outdoor thermostat supplementary heater. (This indicates one or more thermostats.) |
| SC—Switchover valve, cooling. | TDS—Thermal delay switch. |
| SH—Switchover valve, heating. | SR—Supplementary heater relays. (This indicates one or more relays.) |
| SP—Static pressure defrost switch. | UT—Unload timer. |
| PS—Defrost cut-out pressure switch. | M&N—Controls relays for supplementary heaters added as needed for systems with multiple outdoor thermostats. |
| PD—Compressor motor starter. | |
| TDSI—Pressure differential switch. | |
| TS1—House thermostat, first step, heating. | |
| TS2—House thermostat, cooling. | |
| TS3—House thermostat, second step, heating. | |
| O—Control box terminal. | □—Magnetic starter box terminal. |
| | ◆—Lead marker. |



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Worthington Corporation, Air Conditioning and Refrigeration Division, Section A.4.34, Harrison, New Jersey.



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Open Case Merchandising-1

Dairy Manufacturers Hear How Open Display Cases Have Changed Selling Techniques—How These Can Help Industry Succeed

By D. C. McCoy, General Sales Dept., Frigidaire Div., General Motors Corp.

It is an opportune time for the ice cream industry and the refrigeration industry to take stock and arrive at a better understanding of some of our mutual problems. I hope I will bring you a few ideas which will be helpful, stimulate thinking, clarify some mutual problems, save you a few headaches, and make you a few dollars in the future.

Our mutual interests and problems divide into two considerations—one having to do with changes in merchandising techniques, the other with technical refrigeration problems which these changes have brought about. Let me put on my salesman's hat first, and start with the merchandising part of my story.

Merchandising is a constantly changing art. To take full advantage of merchandising opportunities, you must be constantly changing with it. We have a humorous saying at Frigidaire—"There is nothing permanent but change." Applied to the details of today's merchandising, no statement could be truer.

For example, let's look back to 1924 in the ice cream business when the use of mechanically refrigerated cabinets was getting under way. The brine tank-type ice cream cabinet was in vogue. The ice cream parlor, the drugstore, and stores of the "Papa-Mama" type were the biggest

sources of ice cream sales. Most ice cream was sold in bulk and hand dipped. Much was consumed on the retailer's premises. Packaged sales and novelties were a very small part of the business; in fact, many customers positively refused to accept packaged ice cream.

Ten or 15 years ago, if I had said to you that buyers of dairy products and ice cream would serve themselves from an open-type refrigerated merchandising cabinet; that packaged ice cream would be a large part of current sales; and that the chain store and supermarket would replace the ice cream parlors, drugstores, and the "Mama and Papa" stores, you would have promptly nominated me as a candidate for the lunatic asylum. Nevertheless, these changes have come to pass.

More Packaged Items Sold Than Bulk

Today, less ice cream is being sold in bulk and more sold in package. Yes, not only in packages, but in large packages, such as half-gallons and gallons. The latest (August, 1953) statistics I have seen indicate that for 1953, about 42% of ice cream gallonage will be packaged, against 40% in bulk. The chain stores and supermarkets have developed into a very important outlet for dairy products and ice cream.

Ice cream, milk, cream, buttermilk, cottage cheese, and other associated products requiring refrigeration are being sold from open refrigerated display cabinets, and the customer is serving himself.

These changes result from other over-all changing conditions. For the past 20 years, all business has been faced with a constantly shrinking profit margin. We have been plagued with heavy and rising taxes, confusing regulations, rising wages, and scarcity of skilled labor. Therefore, anything which conserves labor, such as encouraging customers to serve themselves, and which increases the size of the unit sale and increases volume is most desirable.

Customers Like Self-Service

Therefore, we must accept this situation whether we like it or not. The food seller, like the farmer and manufacturer, must get higher output in the form of sales per unit of labor and space occupied to meet today's reducing margins. Self-service is making this possible and appears here to stay. Customers like self-service.

The trend toward packaged ice cream is not surprising. In the boyhood days of some of us, the unsanitary cracker barrel in the grocery store was a familiar sight. It has

long since disappeared. For some time, crackers have been marketed in sanitary packages, fabricated at the manufacturing plant and entirely acceptable to the customer. As long as good value and quality are present in a packaged unit—and they are maintained—the public will buy.

One of your major competitors, the soft beverage, is another excellent example of package selling. The individual bottle is a package which competes with you for the customer's dollar. The soft beverage people have taken advantage of increasing the unit sale with the carry-out carton of six bottles. This has definitely stimulated and increased the consumption of soft beverages. I am informed that the sale of one popular drink has gone from 80% fountain sales to 80% bottled sales. The same basic change has taken place in the beer business. How long has it been since you have seen someone "rushing the growler?"

Greater convenience, sanitation, ease, and speed of purchase due to self-service have popularized the packaged item with the consumer. History is merely repeating itself in case of ice cream and many other perishables. This trend is logical and all to the good.

3 New Trends

Three other trends are worthy of note. First, because of satisfactory and reliable home refrigeration, the housewife can safely make, and does make, fewer trips per week to purchase food supplies. Reliable mechanical refrigerators, home food freezers, and the combination refrigerators keep dairy products and ice cream better and longer in the home—to your advantage. They encourage keeping perishable food on hand and increase the unit sale. They have played a substantial role in making ice cream a year-round food item in the household.

Second, the housewife also tends to confine her purchases to fewer places of business. The supermarket is an outcome of this trend. It is only natural, therefore, that sales of packaged ice cream should replace bulk ice cream and the supermarket is replacing the "Papa and Mama" store as an important outlet for ice cream. Other dairy products are also following this trend.

Third, it has also been noted that the average housewife, along with decreasing the number of trips to market, and buying more and more at a complete food store, is buying less and less from a shopping list, and depending more on purchasing what looks good. Hence, the importance of impulse sales dare not be overlooked.

Typical operating margins for supermarkets developed in a survey

conducted by the magazine *The Progressive Grocer* were as follows:

Meats	20.4%
Produce	26.8
Dairy	13.8
Bakery	20.0
Groceries	14.6
Ice Cream	18.26

Low Margin = Low Price

The ability to operate at such low margins enables such stores to sell dairy products and ice cream at lower prices. These products are fast-moving, all-year-round items, returning a good profit per square foot of floor space, and reducing use of labor because they are adaptable to self-service. Therefore, the supermarket is a retailing field which should be exploited by your industry for future sales expansion. We must recognize these trends in buying habits and cater to them.

Sales are increased by getting more people to buy, and/or getting the same people to buy more. What can your industry do to get more people to buy more of your products? One answer is to cash in as much as possible on impulse buying. NOW, HOW CAN WE DO SO?

Psychologists tell us that the five senses of touch, sight, smell, taste, and hearing are responsible for our mental impressions and the urge to act. Sight and touch are recognized as the most important merchandising elements. An old Chinese proverb says "One picture is worth 10,000 words." Time and experience have proved it true. People do buy with their eyes. Experienced merchandisers will tell you that people also like to pick up and handle the things they buy. It is, therefore, evident that to increase impulse sales, everything should be done to take advantage of all of these senses, especially sight and touch.

Sight, Touch Sell

How can we take maximum advantage of these two things—sight and touch? We all see best at eye level or slightly below eye level at a distance of only a few feet. We can touch and handle merchandise in this same space with little or no effort. It is not convenient to see or handle items that are below knee level. Therefore, the most important selling space in a store is between eye level and knee level.

The most effective use of this space will produce the maximum of impulse sales.

As the shopper progresses through the store, displays of all competing items attract her attention and compete for her dollar. Consequently, your industry must in some way attract the shopper's attention and make a more effective product appeal

to her than competing products to get your share of her food dollars and increase your business.

You will have to school your retailers in the use of proper techniques, encourage them to provide the equipment required, and continually follow up on them to see that they do not lag in their application. Following are some of the techniques used with success with other merchandise:

Successful Techniques

1. Use modern surroundings. The store should be cheerful, pleasing, and clean. Color combinations, heating, ventilation, and air conditioning are important. Avoid crowded atmospheres.

2. Locate the display properly. Strive for a position of maximum store traffic. Locate where it is logical to expect the housewife to consider impulse purchases.

3. Give the product display space commensurate with earnability. Every retailer is anxious to promote high margin items, fast turning items, and items which have sales appeal.

4. Utilize eye-catching display material—colorful signs and pictures, brightly illuminated. Change frequently to arouse new interest.

5. Mass food displays attract attention. Merchandise must be seen to sell on impulse. "You cannot sell from an empty wagon." Clearly price all varieties and sizes.

6. Make items accessible. Place them where they can be readily seen, reached, and handled; that is, between eye and knee level.

7. Plan the display to please the shopper. Keep it neat, sanitary, and orderly.

8. Provide a quality product. Protect product quality by properly designed refrigerated display cases, with the correct product holding temperatures.

All of these eight points are applicable to the products you sell.

The package itself merits careful consideration. It should be colorful, attractive, clean, refrigerated so that it will stand the trip from the store to the home. Finally, it must be convenient for the housewife to store and use in the home. The package must protect the quality of the product. Incidentally, does your package have "eye appeal and buy appeal?" There are some technical aspects to packaging you can profitably consider, which I shall cover later.

Recommend Equipment

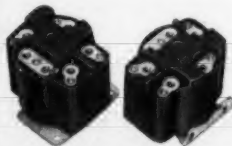
It is up to you to recommend equipment to sell your products which will create the impulse and urge to buy, will protect the product at the maximum quality until the customer buys it and gets it home. The equipment must also make a profit for the retailer. You and the retailer must know where to locate the fixtures to cause the maximum impulse to buy. Several trials at different locations may be necessary to establish the best location in various stores. Some experimentation is necessary. There are no cut and dried rules applicable to all situations.

Orderly arrangement of displays, (Concluded on next page)

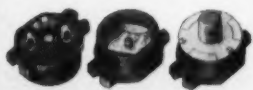
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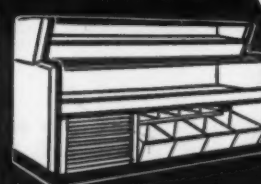
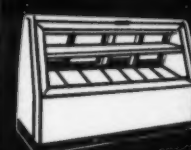
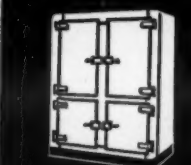
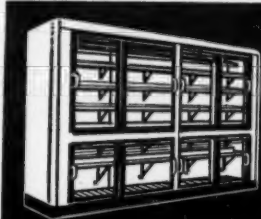
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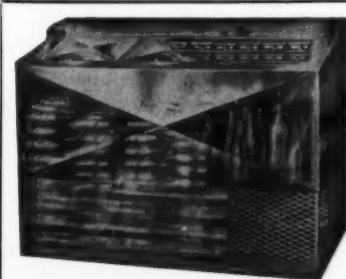


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Commercial Refrigeration

Open Display Case Merchandising--

(Concluded from preceding page) keeping the various items and package sizes separated and easily accessible is desirable. Our surveys have revealed that many customers are irritated by different types and kinds of foods being all mixed up in open merchandising equipment. With the product accessible to the customer, as it is in this type of case, it is only natural that customers will upset the display. Customers do not like to sort over a number of items to secure the desired item. This creates an operating problem which the maker of the cabinet cannot solve for you. The solution to this problem is supervision and rearrangement whenever necessary. Retailers must assign this as a definite responsibility to a reliable clerk. The maximum of eye appeal and the maximum of convenience in selecting what the shopper is interested in must be maintained and constantly presented to the consumer. This satisfies the consumer's desire to shop as conveniently and speedily as possible.

Keep Displays Orderly

Don't forget that the self-service idea brings the thought on the part of customers that they are doing the retailer a favor by waiting on themselves and eliminating clerks. The importance of attractive, orderly, and convenient arrangement of merchandise must not be neglected.

Having created this desire to buy, the product must be in good shape so that when the customer is ready to serve it, she is not disappointed. Therefore, open-type merchandising equipment must both merchandise the product and protect its quality.

Now, let me drop merchandising for a while, take off my salesman's hat, put on my engineer's hat, and examine some of the technical considerations which this modern merchandising brings with it.

Open-type refrigerated display equipment has brought new operating problems which have been startling and annoying to you and your retailers. Users of this type of equipment—and I regret to say some who

true today. Remember this, and you will save yourself many headaches with modern refrigerated merchandising display equipment.

Second, let me assure you that to design an open refrigerated display case which will provide near 0° F. top package temperatures and in addition hold steady enough product temperatures to hold ice cream, is a major engineering achievement. If a display case will hold ice cream, it will handle all present commercial frozen foods. Such equipment is not available, but its successful use requires recognition of its limitations and proper operating technique on the part of the user.

Closed Cases Overcame Growing Pains

The earliest service type closed refrigerated display cases had just as many growing pains. Their successful use finally required an intelligent compromise of some design factors and operating technique. Since these were applied, and users stepped up to their responsibilities in the matter of operating technique occasioned by the limitations of this equipment, everybody has been happy, and these cases have successfully served their place in merchandising meats and other perishables.

It is interesting to note that some of these limitations have not yet been solved after a period of about a quarter of a century. History is now repeating itself in so far as the present type of refrigerated open-type merchandising cases are concerned.

There is a vast difference between trying to maintain temperatures in an open-type and a closed case, or an open merchandising refrigerated low temperature display case and a conventional ice cream cabinet. An open-type case provides the possibility of trying to refrigerate and dehumidify "all outdoors." The refrigeration load to maintain temperatures in an open-type meat case is considerably higher than that required for an equivalent length of closed meat case. The comparative operating data for an open case vs. a conventional ice cream cabinet are shown in Table 1.

Table 1—Comparative Operating Data

Conventional Ice Cream Cabinet	Glass Front Display Case
ICL-10D65—10 hole	FFOR-8X—Eight Foot
17.1 cu. ft. (65 gals. bulk)	14.4 cu. ft. (650 Pints of equivalent)
90° Room—5° Average Sleeve	90° Room—Zero Average Product
¾-hp. air-cooled compressor	1-hp. water-cooled or
	1½-hp. air-cooled compressor
Self-contained	Remote
3½ kwh./day	25 kwh./day

sell it—have been playing ostrich—hiding their heads in the sand and refusing to recognize its present limitations.

There Are Limitations

There has been too much wishful thinking about the ideal cabinet with no limitation or problems. The open-type refrigerated cabinet is a new development. It is passing through the pioneering phase, and we must face up to the problems of pioneering until time, experience, and engineering skill solve those that can be solved.

What are the problems they create, what cures are possible, or what operating techniques are required where engineering design has not yet provided a cure and may never provide one? To appraise the situation intelligently, it is necessary to know and understand some background and fundamentals of refrigerated display cases.

First, let me make two fundamental statements:

1. All engineering is compromise.
2. A display case is a fixture designed primarily to display a product and sell it.

The refrigeration results obtainable with this class of equipment so far have always been limited by compromise to assure maximum display. Maximum display as a major design objective caused limitations on the earliest cases. This is still

Lower temperature combined with open construction has added to the refrigeration load, and introduces other operating complications. Drafts in the store, atmospheric humidity, and the effect of light and radiant heat are very important complicating factors.

Open-type display cases have been developed using refrigerated plates, and both gravity and forced air circulation. Today's design trend for low temperature cases is predominately to forced air. The low refrigerant temperatures and the high air velocities created by forced air in closed cases with exposed meat, both of which caused the dehydration, are not a problem in today's open merchandising cases, as the product is protected by a wrapper. However, the use of forced air with open cases requires very careful design in order to avoid picking up unnecessary heat and moisture from the atmosphere. Very careful air distribution over the product is required to maintain correct product temperatures and conditions.

Defrosting Important

In order to obtain and maintain good refrigeration, cooling coils must be kept clean, hence defrosting of the coils is a very necessary function for successful operation. In all types of display cases, physical limitations caused by obtaining maximum display, limit the amount of refrigerat-

ing coil surface which can be placed in the cases. This is one example of necessary engineering compromise. This causes operation at relatively low refrigerant temperatures, adding to the difficulties of defrosting the coils. Defrosting of coils becomes a more difficult problem as fixture and refrigerant temperature decreases.

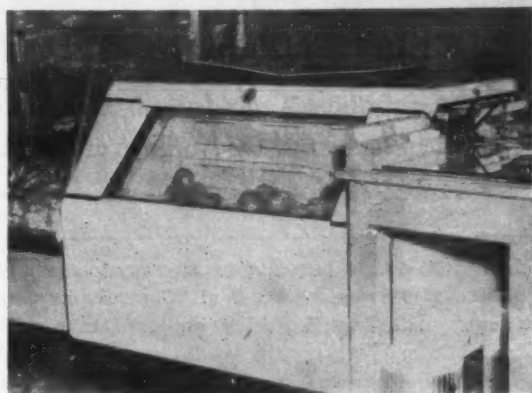
Above 35° F. case temperature, defrosting is relatively simple. The conventional low pressure control combines both functions of temperature control and defrost control. Reliable automatic defrost each cycle of the condensing unit can be obtained. Below 35° F., it is mandatory that additional equipment to provide positive automatic defrosting of the coils be added to the system. This increases first cost and complicates the system. Too many users and servicemen do not understand such systems, which adds further maintenance problems. When maintaining near 0° F. in an open-type case, the successful defrosting of the cooling coils alone is a major design problem.

Reeder Joins York-Detroit; Klingher Wins Promotion

DETROIT—Brooks Reeder's appointment as general manager and the promotion of M. H. Klingher to the position of assistant manager of York-Detroit Corp., has been announced by L. D. Wasson, president.

Reeder will be responsible for all phases of the company's activities and personnel, Wasson said.

He comes to Detroit from the St. Louis area where for the past 18 months he has been assisting York distributors. Previously he had managed a York distributorship in Cleveland for several years.



SMALL REFRIGERATED DISPLAY CASE puts ice cream party favors in plain sight of customers at Baur's, Denver.

Frozen Party Favors Get Sales Boost From 3 x 3-Ft. Refrigerated Case

DENVER—A small refrigerated display case is steadily promoting the sale of frozen ice cream party favors at Baur's, outstanding baker in downtown Denver.

Baur's has emphasized the "unusual" in party ideas, and during recent years, small individual ice cream favors have been leading the list of rapid-turnover items.

Included are reproductions of autumn leaves, for example, during the Fall, turkeys for Thanksgiving, tiny locomotives, freight and passenger cars, sweetheart hearts with piercing arrow (for engagement parties), ladies' slippers, antique automobiles, etc.

All make one serving of ice cream,

and are often topped with gay icing, candies, or colored with fruit colorings in contrasting hues, Baur's indicates.

To display them effectively, Baur's went to a local refrigeration contractor who designed a combination storage and display case. The box is 3½ ft. long by 3 ft. wide, with a lift-up lid giving access to the 6-cu. ft. interior.

At the front, slanting sharply forward, a small glass case replaces the metal side of the refrigerator. This is only 2½ ft. long by some 16 in. wide, leaving sufficient space inside to display around one dozen variant ideas in frozen favors, on tiny lace-paper doilies.

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Wagner Hermetic Motors, like all Wagner motors, are known to give extremely long life with exceptionally little trouble. They are backed by more than sixty years of motor building experience. Every Wagner hermetic motor is precision-built and carefully tested.

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Hermetically sealed compressors for air conditioners and refrigerating equipment are rapidly gaining preference because of the great convenience they offer to users of the equipment—there is nothing to oil or adjust, no belts to fail.

Wagner Hermetic Motor of the type used in air conditioners. This 7½ horsepower polyphase squirrel-cage motor is especially designed for use in sealed refrigeration units.

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Cooling, Dehumidifying Controls

Theory of Controlling Coils for Air Conditioning
Outlined and Illustrated by Kahlert of Trane Co.

By Wm. E. Kahlert, Air Conditioning Sales Department, The Trane Co.

The following article presents in an easy-to-read, condensed form an outline of the various types of "Controls for Cooling and Dehumidifying," under which title it appeared in a recent issue of the Trane Co.'s *Weather Magic*. It is reprinted here with permission.

The purpose of this article is to present a general outline of the theory of controlling coils used in air conditioning. Applications of various types of controls will be presented separately for cold water cooling coils and for direct expansion coils. Methods of control will be illustrated for each coil, covering first straight dry-bulb temperature control and then dry bulb and humidity control with reheat.

WATER COOLING COILS

The simplest method of controlling a water cooling coil is with a two-position thermostat and a two-position valve, as shown in Fig. 1. When the room calls for cooling, the thermostat opens the valve to its wide open position. This method of on-off control has the disadvantage of discharging alternately warm and cold air into the conditioned space. However, when the coil is in operation, maximum dehumidification is provided.

By using a modulating thermostat

with a throttling or three-way mixing valve, the discharge air temperature will vary with the load requirements, as in Fig. 2. A throttling valve is generally used with well water installations, whereas the three-way mixing valve is used with chilled water systems having mechanical refrigeration.

The modulating valve has the disadvantage of raising the average water temperature under light loads, causing the cooling coil to do less latent cooling. On the other hand the percentage of latent cooling required under light loads generally becomes greater. This results in high humidities although the dry-bulb temperature is controlled.

Control of the water coil also may be obtained by use of face and by-pass dampers, as shown in Fig. 3. When the conditioning equipment is arranged in this manner, it is possible to regulate the temperature of the delivered air without sacrificing the dehumidifying effect of low coil

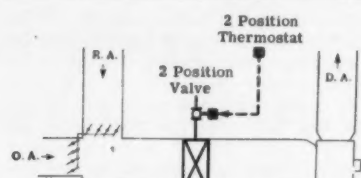


FIG. 1—Water cooling coil with on-off control.

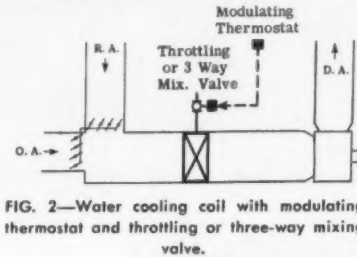


FIG. 2—Water cooling coil with modulating thermostat and throttling or three-way mixing valve.

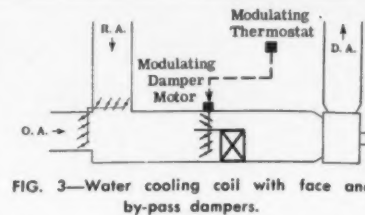


FIG. 3—Water cooling coil with face and by-pass dampers.

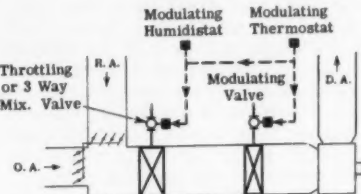


FIG. 4—Water cooling coil with reheat.

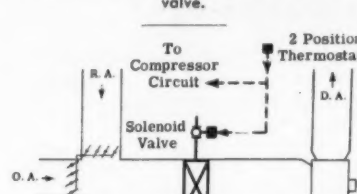


FIG. 5—Direct expansion coil with on-off control.

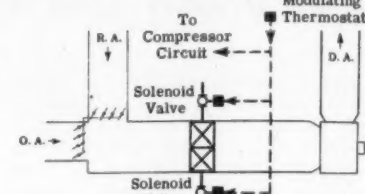


FIG. 6—Direct expansion coil with split evaporator.

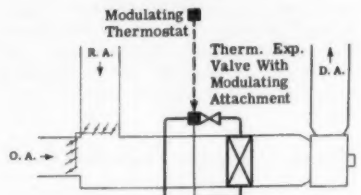


FIG. 7—Direct expansion coil with starved evaporator system.

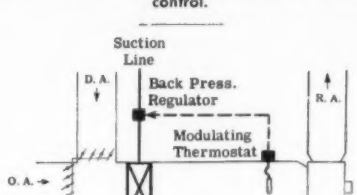


FIG. 8—Direct expansion coil with back pressure regulator.

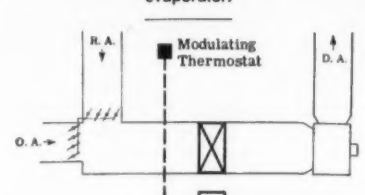


FIG. 9—Direct expansion coil with compressor unloader reset by thermostat.

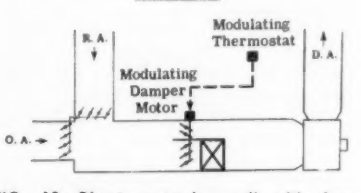


FIG. 10—Direct expansion coil with face and by-pass dampers.

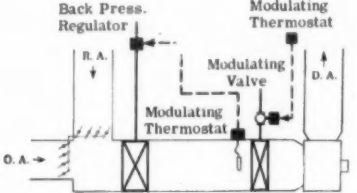


FIG. 11—Direct expansion coil with reheat.

temperatures. The coil is maintained at its minimum temperature level and a throttling effect is gained by varying the proportions of air passing through and around it.

WATER COOLING COILS WITH REHEAT

In order to maintain proper humidities, reheat may be required on some systems where the latent load is relatively high. It may be impossible for the cooling coil to discharge the air at a condition which will satisfy both the required dry bulb and dew point temperatures.

In addition, certain control methods will not give the proper dehumidification under modulated conditions although they will satisfy the requirements at maximum design conditions. This is sometimes true of the throttling or three-way mixing valve as previously mentioned.

If a modulating water valve is used with the addition of a reheat coil and a humidity controller, as shown in Fig. 4, this condition can be corrected. With this system the thermostat modulates the position of the throttling or three-way mixing valve in the cold water line. However, should the relative humidity become too high, the humidistat will control the valve to assure required dehumidification. The thermostat then modulates the steam valve on the reheat coil to maintain the proper dry-bulb temperature.

DIRECT EXPANSION COOLING COILS

A simple type of direct expansion cooling coil control is illustrated in Fig. 5. The flow of refrigerant to the coil is controlled by a solenoid valve which is opened and closed by a two-position thermostat. The thermostat also starts and stops the compressor with the action of the solenoid valve.

This system is used on smaller installations where frequent on-off cycling of the compressor is not objectionable. Maximum dehumidification will result when the coil is operating, but the discharge air will be alternately warm and cold.

The split evaporator system, Fig. 6, is a simple variation of the preceding system. In this case the thermostat closes two or more solenoid valves in sequence. Each solenoid valve is attached to an individual evaporator circuit. This is a step between on-off control and modulating control.

The operation and characteristics of the system will vary with the number of evaporator circuits, although basically the dehumidification is good with limited variations in the discharge air temperature and reduced on-off cycling of the compressor.

There are several methods of modulating the capacity of a direct expansion coil to vary the discharge air temperature in accordance with the load requirements.

The first method, Fig. 7, illustrates

a starved evaporator system. The thermostat modulates the flow of liquid through the expansion valve in accordance with the load by changing the superheat setting. As the room temperature falls, the superheat is increased, thereby cutting down the effective coil area.

This is one of the better methods of controlling a direct expansion coil because it not only modulates the discharge air temperature but also provides dehumidification under modulation.

BACK PRESSURE REGULATOR

Fig. 8 illustrates the use of a back pressure regulator to maintain a constant temperature leaving the direct expansion coil. As the load changes the thermostat modulates the back pressure regulator, causing a change in the suction temperature to meet load conditions.

This method is used where a constant leaving air dew point is required. A reheat coil is also necessary to provide dry-bulb temperature control.

There is a second method of controlling back pressure, as shown in Fig. 9. The thermostat resets the point at which the unloader mechanism on the compressor operates, which in effect varies the suction pressure in accordance with the room temperature. This system has the disadvantage of raising suction temperature under light load conditions, which in turn reduces the amount of dehumidification performed by the direct expansion coil.

FACE AND BY-PASS CONTROLS

The face and by-pass damper installation, Fig. 10, controls the direct expansion coil by positioning the dampers to regulate the amount of air flow through the coil. It is probably the best method of controlling a direct expansion coil and is very commonly used. The discharge air temperature is varied to satisfy the room temperature and the dehumidifying effect is not sacrificed on light loads.

DIRECT EXPANSION COILS WITH REHEAT

The use of the back pressure regulator was previously described and it was explained that reheat is required for dry-bulb temperature control. Fig. 11 illustrates the complete cycle. The modulating thermostat in the air leaving the direct expansion coil operates the back pressure regulator to maintain a constant discharge temperature. The modulating room thermostat positions the valve on the steam coil to provide the necessary amount of reheat.

Johnson Service Buys Building In Atlanta, Ga.

MILWAUKEE — Johnson Service Co. here, which manufactures, plans, and installs automatic temperature control systems, recently purchased a building in Atlanta to provide more space for its Atlanta branch and Georgia - Alabama - Florida headquarters.

The completely air conditioned building at 489 Bishop St., N.W., Atlanta, includes offices, warehouse, and shops.



"It sure gets rid of the gook!"

It in this case is "Virginia's" new degreasing solvent sold under the trade name of Virginia No. 10. Made expressly for refrigeration, electrical and automotive use, Virginia No. 10 fills the need for an effective degreaser that can be used with comparative safety.

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solvents, will not cause the rusting of machined parts.

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Hermetically Sealed Terminals

Glass-to-Steel Terminals Described by Fusite Officials as Final Step
In Making Hermetic Compressors Completely Sealed

By J. H. Marsh and Andrew Wyzeenbeek, The Fusite Corp.

Within the last few years, the growth of hermetic sealing in the refrigeration industry has reached astonishing proportions. All household refrigerators now use totally enclosed compressors while many commercial size compressors are similarly enclosed.

In this growth, the use of hermetically sealed electrical feed through terminals, made by fusing glass to steel, has been an important phase in providing complete hermetic units. In case after case, the use of such terminals has been the last, but still an important, factor in making compressors completely sealed.

Just what is an hermetically sealed electrical feed through terminal? It is one or more pins fused into an inorganic insulation of glass which, in turn, is fused to a circular steel plate. The plate is attached to the electrical unit by resistance welding or soft soldering.

With these plates joined to a compressor, the last link in making a hermetic unit is complete. Electrical current can then be safely injected without danger of electrical or gas leakage. The weld joining the plate to the compressor is as tight as the remainder of the unit.

A review of what has been accomplished in this field will provide ideas for other manufacturers.

Hermetically Sealed Terminals First Used In 1926

The first known use of hermetically sealed terminals on totally enclosed compressors was around 1926 when one of the major refrigerator manufacturers began using them.

Three of these relatively high cost items were pressed into the dome of the compressor and soft soldered. Today, the simplified cluster of three glass insulated terminals fused into a single mounting plate is an outgrowth of tremendous wartime research and development. Many military electronic devices had to be sealed against the extremes of arctic and equatorial use.

A hermetic method had to be devised to inject the electric current into these units. Rugged, high production single and multiple glass-to-steel hermetic terminals, resulting from this research, was the answer.

Cost Objection Overcome

When the terminals became available after the war, there was the usual question of cost that accompanies the introduction of any new product. This objection was met by showing how such terminals could save in manufacturing cost.

This saving was accomplished by cutting assembly costs. Where as many as 42 parts were necessary in 1945 for a hermetic seal, the new terminals are assembled by projection welding in one swift operation. Over five million of these terminals are now in use and it is expected that their use will greatly increase within the next year.

Another objection made was that the terminals were too delicate and could not withstand the manufacturing process. Some of the first post-war terminals required water spray cooling on the terminal while it was being resistance welded into the dome of the compressor. Later refinements in design provided the necessary strength to withstand the roughest of welding operations.

The over-all unit is as tough as the steel that forms the plate. In addition, high shock value was imparted to the electrodes or pins. When clips are assembled to the electrodes, the tough steel does not bend out of line.

In one case, a refrigerator manufacturer found an additional advantage. A new type relay was developed that plugs directly onto the terminal. This saved additional assembly time and expense. The rugged construction of the terminal made it possible for the metal electrodes, surrounded by glass, to support the full weight of the relay.

Another cost cutter is a recently developed two-in-one welding operation. Using two concentric rams operating at slightly different levels, it is possible to weld the terminal flange into the compressor housing and a protective skirt around the terminal in a single operation.

Practically all refrigeration manufacturers are using the same basic type of terminal. This means a considerable saving to these companies due to economies of volume manufacture. All fractional horsepower compressors require three feed through leads—one for the common connection, one for the main winding, and one for the starting winding. These three leads have been combined into a single cluster multiple terminal panel.

Design Discussed

Several points should be noted in this design. A 45° flange is formed at the base of the terminal plate. This flange permits the use of a straight punched hole approximately 1 1/4 in. in diameter in the dome of the refrigerator compressor. The surface on the outside of this hole—opposite from that where the terminal is welded, has to be flat to provide the proper conductivity between the steel and the upper electrode during the welding operation.

The inside corner of the punched hole should be as sharp as possible and the die burr left in place. This sharp corner is used as a projection for making the resistance welded joint. It is fused into the 45° flange of the terminal.

Further illustrating the simplicity of the cluster design, the electrodes are of sufficient length so that all specifications of the Underwriters Laboratories through glass and over air are met when a mechanical clip is attached.

The three electrodes may have a groove at each end. This groove serves to lock the clip onto the electrode so that, in case of vibration, the clip will not come off. This clip provides a satisfactory method for quickly attaching motor lead wires to the terminal.

Service Errors Eliminated

Three of these same clips in a polarized phenolic socket attached to a wiring harness may provide external connection and can be assembled quickly and inexpensively. This eliminates the necessity of a service man in the field trying to determine which wire fits which electrode. It eliminates errors on the service man's part in making connections and also eliminates the necessity of his making a solder joint.

The terminals and clips are now used in 1/4, 1/2, 3/4, and 1-hp. compressors 110 and 220 volts up to 1600 volt-amperes. Plans are now being made to use the terminal through all fractional horsepower motors with 110 or 220 volt applications. This will be done when more positive connection means can be employed in order to reduce possible heat-rise at the connection.

Rugged Construction

Rugged construction of the terminals is best illustrated by describing the welding operation. In welding, the temperature at the point of weld is approximately 2,300° which is near the melting point of steel. The terminal has to be constructed to withstand this shock, although the operation is only seven cycles or 7/60ths of a second.

Strength was also necessary due to ram pressure of the welder during the welding operation. In some cases this goes as high as 6,000 lbs. The welder that is normally used in this operation is one capable of furnishing approximately 70,000 working amperes.

Two types of welders are used, one where the terminals are side mounted and one where they are top mounted. In one side mounted operation, the welder is a 100 kv-a. tri-phase d.c. welder. The .055 in. thick terminal skirt forms the contact for the annular projection weld when brought into contact with the edge of the hole in the shells. The compressor shells are of .120 in. thickness. The balanced three phase d.c. circuit with low power demand is ideal for this application.

In top mountings, a special low impedance a.c. projection welder is used to perform the operation where the single phase power supply is adequate. Since cooling spray is unnecessary, production can pass

through the welder, production speed-up results from short electrode travel and a pivoted fixture that facilitates loading and unloading. Gas tight welds on this machine are made at a rate up to 350 per hour to withstand a hydrostatic test pressure of 2,000 p.s.i.

Prior to glass-to-steel terminals, all connections were based on gaskets with as many as 14 parts per feed through lead. These seals were tightened with wrenches. Occasionally there were epidemics of leaks due to the omission of certain parts or because the hole in the housing would shear the gasket.

But, most important, one faulty terminal could cause a good deal of grief during pressure testing. A vacuum was pulled on each compressor in a 280° dehydration oven. There were usually 80 compressors, with 240 terminals, being tested at once. In this operation, which was necessary to remove all moisture, leaks were immediately indicated if the required vacuum could not be established.

When a leak was discovered, all 240 terminals had to be re-tightened, thus, adding a large cost factor to the over-all operation. Glass-to-steel terminals eliminated leaks during dehydration and evacuation time could be reduced.

Another point in using the new terminals was the almost complete conversion of refrigeration manufacturers to the use of "Freon" as the refrigerant. A true hermetic seal was necessary to withstand the higher "Freon pressures." Glass-to-steel terminals provided this.

At one manufacturer's plant, there is no known record of a compressor being returned from the field because the glass-to-steel terminal was at fault.

Used on Dual-Frequency Compressor

Another example of cost saving as well as the versatility of these terminals is shown by a problem faced by the Hydro Power Commission of Canada. In the southwest area of Ontario, there is still 25 cycle current in use. The area will eventually be changed to 60 cycle current.

The commission asked a refrigeration manufacturer to build a dual frequency compressor that would operate on both 25 and 60 cycles. In constructing such a unit, it was necessary to use a seven pin terminal. This terminal is so arranged that, when it is plugged in one way, the compressor will operate on 25 cycles.

At such time when the area is switched to 60 cycles, a service man will only remove the plug, turn it one pin clockwise, plug it in, and the unit will operate on 60 cycles.

Illustrating the various points of glass-to-steel terminals is the experience of one refrigerator manufacturer. Desirable working specifications were set up and a series of tests arranged. These specifications were as follows:

Electrical: 2,500 a.c. volts (R.M.S.)

at sea level flash over peak; 10,000 megohms insulation resistance after salt water immersion.

Pressure: 350 lbs. p.s.i. air without showing any leaks while submerged in water; 2,000 lbs. p.s.i. hydrostatic in housing assembly; 3,000 to 4,000 lbs. hydrostatic in test fixture. Water was used as the fluid.

Heat shock: each terminal must stand 500° heat shock when rapidly heated to this temperature by use of an induction heater. This simulates resistance welding shock. After this, they must test to 350 lbs. p.s.i. air without showing any trace of leakage when submerged in water.

These specifications were far in excess of what would actually be required in day-to-day operation. However, since there is a five year warranty on the compressor, as given today by most refrigeration companies, the firm wanted to be absolutely sure there was no chance of failure. The terminals passed all tests.

Next some 1500 pilot compressors were built and subjected to these as well as actual use tests. After a year of testing and analysis, the engineering department gave its approval.

Next came the integration of the terminal into the production processes. Here no major equipment changes were needed except the addition of a larger welder to perform the weld assembly. The only changes necessary in the compressor were the punched hole, length of lead wires, and connectors to the terminals of those lead wires.

As used by this manufacturer, as well as other firms, the glass-to-steel terminal became the last link toward building a compressor that could be considered completely hermetic.

DOES CHANGING THE VALVE REALLY CURE THE TROUBLE?

As you know, changing an expansion valve may remedy a lot of trouble in a refrigeration system. But does it really cure it?

The fellows at the factory will tell you that a large percentage of returned valves are OK. This indicates that *most troubles occurring at the valve may be caused by the stuff passing through it.* It's possible that a poor oil in the system is sludging or "waxing" and clogging the valve, or that excessive moisture is freezing out in it. By changing a valve, you often remedy the trouble, the system starts up and you get refrigeration. But the *cause* still remains and sooner or later the trouble returns. Be sure that poor oil is not causing the trouble—change to Suniso—the best in refrigeration oils.

Sold by Leading Wholesalers Everywhere

SUNISO ADVANTAGES • provides adequate lubrication at all temperatures encountered in service • possesses a high degree of stability • won't throw out wax deposits under low temperatures • has extremely low moisture content • resists formation of corrosive acids and carbon under service conditions • separates readily from refrigerant—won't react adversely

SUNISO
REFRIGERATION OIL
A PRODUCT OF SUN OIL COMPANY

How a House Organ Builds Sales

Keeping Customers Posted on Your Organization and What It Can Do for Them
Has Proved a Sound Selling Principle for Equipment Distributor

CLEVELAND—Allied Store Equipment Co., Minneapolis, has put much emphasis on its house organ "for it has proven time and again to be a very valuable medium for helping to build sales."

So said Neil B. Herman, vice president of the company, in concluding a fact-filled paper on "The Value of a Periodic Mailing Piece," presented at the seventh annual convention of the National Commercial Refrigerator Sales Association. (In Herman's absence, the paper was read by George F. Wiedemer of Rochester, N. Y.)

Herman noted that there is work connected with getting together a house organ. But, he stressed, when put out on a consistent basis it "can influence your customers and make your selling job much easier."

Herman pointed out that it is a problem for a small business organization to prepare, execute, and maintain any kind of adequate and consistent advertising program.

"Unless someone in the business makes advertising his definite responsibility, the result is a very irregular program of sending out manufacturer-prepared direct mailing pieces, occasional ads in the want

ad section of the local newspapers, and very rarely a company-prepared mailing piece," he said.

Need Professional Help

"This was the situation as it existed with our organization a number of years ago before we decided to do something about it. We all admitted that we knew nothing about advertising and, therefore, knew that it would be necessary to secure the services of someone outside of our organization."

The "someone" turned out to be an acquaintance who was acting as an assistant advertising manager for a small manufacturer distributing a product on a national basis and who had some spare time. This person arranged with his employer to devote some of his time to Allied Store Equipment.

"While this arrangement was being made," Herman recalled, "we also were sold on the idea by this individual that one of the most effective ways he could use his talent for us was in the preparation and issuing of a house organ. . . .

"We allowed ourselves to be sold on the idea that a direct mailing piece on a consistent time interval basis, telling our customers about our organization, who we were, and what we had to sell, was the way we should direct some of our advertising effort."

5 Years Has Shown Results

"After five years we still feel the same way and believe we have some definite results to prove it. Since we put out the first issue of our house organ in November, 1947, we have had three different editors and a period of time when we had no editor at all and tried to keep putting out the issues ourselves without outside help and almost had to abandon the effort."

"From our experience we are thoroughly convinced that unless a company has among its personnel someone with a thorough knowledge

of the basic principles of advertising and who can write the kind of copy your customers will be interested in, it is absolutely essential to hire someone to do this for you."

"This has been our policy, and . . . we feel that our house organ today is better than it ever was and is producing better results. Some of the reasons why we feel this type of periodic advertising has been of value to us are:

"1. A house organ builds prestige for a distributor with a personalized approach. You can present your selling message on a more personal basis keyed to the needs of the merchants in your territory than the various types of selling literature prepared by manufacturers which must be printed to cover all sizes of distributors and territories."

Reaches the Prospects You Want

"2. It enables you to reach the customers and prospects you want to with a minimum of waste circulation. This, by the way, when we issued our first house organ, was quite a problem, for outside of our own list of active accounts on our books and some of the salesmen's prospects, we found we did not have any kind of mailing list to send our house organ to."

"As the result we made a mistake others may have made, which was to buy a direct mailing list from one of the local firms who were also to do the addressing and mailing for us. It developed that on their first mailing about 50% of the addresses on their list were dead and we ended up paying an additional 2 cents return postage on each piece as well as wasting 50% of the issue."

"We immediately cancelled the use of the direct mail list and prepared a new list ourselves from our own account list, salesmen's prospect lists, and all of our wholesale grocers' account lists. At one time we had 10,000 names on our address list, but we have at present reduced it to 7,000."

"We pay 2 cents return postage on all issues unclaimed and these names are removed from our list each month. Also, each salesman's prospect report is checked to be sure the new prospect is put on our address list and as the result, we feel we have a very accurate and up-to-date mailing list."

Eliminates Ad Competition

"3. The house organ eliminates competition with similar advertising at the same time, and we have positive proof that it is read and not filed in the round corner file like a good bit of the other advertising matter a customer gets in the mail at the same time. . . .

"Any number of times we have been asked 'out of the clear blue sky' to call on a customer to figure some work and we have found the latest issue of our house organ on the customer's desk. I can remember one sale I made, personally, amounting to over \$4,000, to an account who was not our customer previously, but who admitted our house organ induced him to call us to give him a price."

"4. A house organ provides ample space to get your sales message across without limitations of other types of advertising. By using a four-

Commercial Refrigeration

Westinghouse Honors Culver Co. as Largest Water Cooler Distributor



Sidney K. Culver, president of Culver Co., accepts award from H. R. Bryant, Westinghouse northwestern district manager.

CHICAGO — Sidney K. Culver, president of the company bearing his name, recently received a plaque for becoming the largest independent distributor of Westinghouse water coolers in the nation. H. R. Bryant, northwestern district manager of the Westinghouse appliance division, made the presentation.

Culver received this distinction when he won for the fourth consecutive year the national rainmaker's water cooler contest sponsored by Westinghouse. At the same time he completed 10 years as a water cooler distributor for that manufacturer.

Culver won the current rainmaker's contest, which is conducted annually by Westinghouse among all of its distributors, by achieving a total of 220% of sales above the established quota.

Located at 1714 North Wells St., Culver has been in business since

1944 and has been awarded the contracts to supply water coolers to such outstanding recent buildings as the Greyhound Terminal in Chicago, the new Link-Belt Co. plant, the Goss Printing Co. and Abbott Laboratories.

Culver's firm not only sells, but also rents and services a complete line of water coolers. He also is a distributor of Westinghouse dehumidifiers and a dealer of major appliances.

page issue and planning the layout properly, we find that we can include sufficient information concerning all of the items we want to feature as well as the personal interest stories and other things that we feel make the issue interesting reading to our customers."

"5. The house organ enables us to report satisfaction of present customers with our merchandise and services. This has been of very great benefit to us and we include in every issue at least one good testimonial with a number of pictures of a customer and his equipment which we have installed which has resulted in an increase in his business. . . .

Gets Your Customers Acquainted

"6. A house organ enables you to keep your organization continuously before your customers as well as getting them better acquainted with your individual representatives. Each issue contains the names of our sales staff and key personnel, and, at intervals, we run stories and pictures of our salesmen."

"Whenever we hire a new salesman, we run a feature story with his picture and we have found such procedure has always paved the way for a new man in a strange territory. It also gives the salesman greater confidence in making his calls because he finds that his prospective customers know the organization whom he is representing to be a well established one and one with whom they can deal with confidence."

"As a result, the salesman can make more effective use of his time on calls and sometimes, as has already occurred, make sales on first calls."

You Can Sell Your Organization

"The house organ gives the distributor an excellent opportunity to tell the merchant how good a store planning and engineering department he has, all about his service department, and all the other facilities he has. It provides an excellent medium to sell your own organization."

"7. A house organ will help to

transform an occasional customer into a regular customer because of the continuous presentation of your company name and activities and products before him. . . .

"8. A house organ has a longer life than other types of advertising. We report many of the activities of local groups, associations, and individuals in our issues and also present many ideas of successful merchants for our customers to follow. People like to see their names in print."

"We also have featured a free listing service for equipment or items merchants wish to dispose of or buy as well as some of our own used equipment and get many responses each issue as the result."

Turning to the production costs of house organs, Herman said, they can vary widely depending on the time and effort taken by the distributor.

"We put out nine issues per year and have a present mailing list of 7,000. Of this number, a few are sent to accounts whom we represent or other interested distributors."

Pictures Are Important

"All of our advertising effort is handled by someone outside of our basic organization but who is well acquainted with it. The cost of his effort in connection with the house organ is approximately \$75 per issue. "We feel that pictures are an important part of each issue in telling the story of successful installations and, as the result, we use an average of eight pictures per issue at a cost of \$6 for an 8 by 10-in. picture."

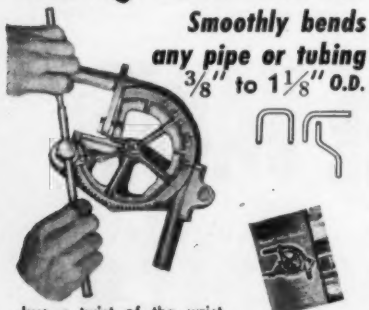
"Our printing cost runs approximately \$50 per thousand. We have our own addressograph machine which has long since paid for itself, so our labor cost to address each issue is only \$12 for 7,000."

"Postage is 1½ cents each and return postage 2 cents. We have approximately 200 returned each month due to people going out of business or moving. Adding all of the various costs together we get an average cost to us of 8½ cents per copy."

"One manufacturer has a house organ available for distribution with two pages completed, leaving the distributor with two pages for his own copy."

Handy Tube Bender

Smoothly bends
any pipe or tubing
3/8" to 1 1/8" O.D.

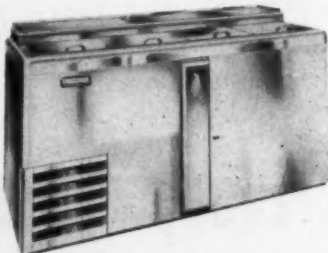


Just a twist of the wrist assures perfect, even, right-angle, U and offset bends. Save enough on ONE job to pay for your HANDY BENDER.

See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.
428 N. WILLOW RD.—EVANSVILLE, INDIANA

Beverage-Air BOTTLE COOLERS for every installation!

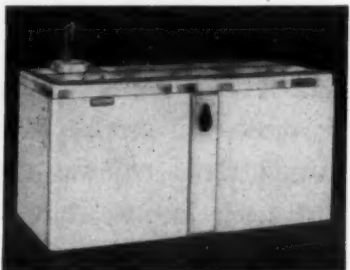


WET OR DRY TYPE CAFETERIA COOLERS

Available in two sizes, 48 and 63 inches long with capacities for 12 and 19 cases of six ounce bottles. All models are complete with 1/4 H.P. Hermetic units and can be used for either wet or dry cooling by a simple turn of the control knob. Lids and top railing in polished stainless steel, balance of exterior in white enamel or stainless steel. Other colors optional. A cooler of quality for school and other institutional or dairy use. Model CA63-SW, white enameled exterior, shown here. Water station optional on all models.

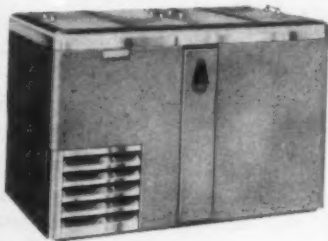
COMMERCIAL TYPE

Available in 16 different models, with capacities from 12 to 30 cases of twelve ounce bottles in completely self-contained cabinets, ready-to-plug-in, and remote cabinets (less refrigeration units) with capacities of 16 to 34 cases. One series features all stainless steel tops, balance of exterior in either stainless steel or tan hammered enamel, a budget series features all baked-on enamel exterior finish, except lids and top railing, which is stainless steel. All are equipped with the Beverage-Air heavy duty forced air cooling system. Model BC63-S, stainless steel exterior, shown here.



DRY TYPE CAFETERIA COOLERS

Available in two sizes, 48 and 63 inches long with capacities for 12 and 24 cases of six ounce bottles. Interior is offset at compressor housing allowing greater capacity. . . . equipped with the Beverage-Air heavy duty forced air cooling system. Lids and top railing in polished stainless steel, balance of exterior in tan hammered enamel or stainless steel. Other colors optional. Designed primarily to accommodate volume sales where floor area is at a premium. Model CA48-S, tan enameled exterior, shown here.



The wide selection of cabinet styles, capacities and types coupled with Beverage-Air Super Cooling performance provide the utmost in modern refrigeration for cooling bottled and packaged goods. All cabinets feature polished stainless steel lids and top railing with welded corners ground smooth to a matching finish adding years to the appearance and quality. . . . there's a Beverage-Air Bottle Cooler to suit every installation.

THE PUNXSUTAWNEY CO. PUNXSUTAWNEY, PA.

NEW-
BIGGER-
BETTER!



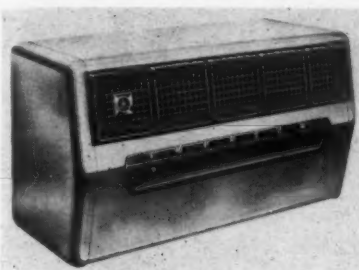
The completely revised Ranco Replacement Reference Manual No. 1544 is now available! It lists almost 5000 controls and describes the most complete line of replacement controls available. Manufacturers are listed alphabetically with trade names, original control part numbers, and Ranco replacement control numbers. See this indispensable new time and money saver on your Ranco wholesaler's counter. Obtain a copy from him for your own use on the job and in your own shop.



Ranco Inc.

COLUMBUS 1, OHIO

WORLD'S LARGEST MANUFACTURERS
OF REFRIGERATION CONTROLS



EMERSON room cooler.

Emerson Line--

(Concluded from Page 1, Column 4) this time, and, in further view of Emerson's traditional policy of placing merchandise within the reach of the masses, we expect to establish ourselves quickly and firmly in this phase of our business activities.

The units range in size from 1/2-hp. window models to 3-ton free-standing units. They are manufactured by Emerson's recently acquired subsidiary, Quiet Heat Mfg. Corp.

The entire line was presented by E. R. Glauber, Emerson's national sales manager for air conditioning. The room air conditioner line contains 20 different models ranging from 1/2 to 1-ton capacity. Sixteen of these are in the "Custom" series and four in the "Compact" series.

6 RESIDENTIAL MODELS

Six models are available in the residential unit line—four with 3-ton capacity and two with 2-ton capacity. In the commercial air conditioning line there are two 3-ton models and one 2-ton unit.

The "Compact" room cooler series contains two 1/2-ton and two 1-ton models. One of each size is standard and the other deluxe.

Exclusive feature of the "Compact" series is that they are designed so that the purchaser can install the unit himself using a five-step procedure and elementary tools. Another feature is that they can be fitted to casement windows. A special kit is available to permit such installation without cutting sashes.

AIR DRAWN THROUGH LOWER EDGE

Glauber pointed out that the air system in the "Compact" series draws air through an opening at the lower edge of the cabinet, eliminating any interference with adjoining curtains or draperies.

Conditioned air is discharged from the front of the cabinet from four grille sections, each adjustable to direct the air in any of four directions. The refrigeration system is a Tecumseh hermetically sealed unit.

All parts and accessories are supplied with each unit to permit installation in windows from 24 1/2 to 36 in. wide. Accessories are available for wider windows.

Cabinets are made of rust-proof Bonderized steel and finished in baked enamel. The adjustable grilles are constructed of high-impact plastic and eliminate condensation of moisture, according to Glauber.

The "Custom" series includes 16 models—two 1/2-ton, eight 3/4-ton, and six 1-ton units. These are evenly divided between standard and deluxe models.

All features of the "Compact" series are carried over into the "Custom" series, Glauber declared. All models in the "Custom" series are made in all required voltages, he added.

The six residential air conditioning units—four 3-ton and two 2-ton models are equally divided between standard and deluxe. Deluxe models are equipped with cooling and heating controls that permit change-over

of operations in accordance with weather conditions. Standard models are equipped with cooling controls only for use in conjunction with an existing heating plant.

The commercial line consists of one 2-ton and two 3-ton models. Only four pushbuttons behind a concealing door provide ventilation as well as continuous and thermostatically controlled cooling, Glauber asserted. The adjustable thermostat is located within the unit to avoid tampering.

All service connections are made through the rear of the unit and may be brought out through the base to provide tight against the wall installation. The entire refrigeration system slides out of the base for easy servicing. The entire system can be replaced in a few minutes, if necessary.

Suggested retail prices of the line are as follows:

Model No.	Description	Size Series Ton	Suggested Retail Price
E3A1	Standard	1/2	\$199.95
E3B1	Deluxe	1/2	209.95
E4A1	Standard	3/4	239.95
E4B1	Deluxe	3/4	249.95
"Custom" Series			
E5A1	Standard	1/2	\$269.95
E5B1	Deluxe	1/2	289.95
E7A1	Standard	3/4	349.95
E7B1	Deluxe	3/4	369.95
E7A2	Standard	3/4	349.95
E7B2	Deluxe	3/4	369.95
E7A8	Standard	3/4	359.95
E7B8	Deluxe	3/4	379.95
E10A2	Standard	1	419.95
E10B2	Deluxe	1	439.95
E10A8	Standard	1	429.95
E10B8	Deluxe	1	449.95

Models labeled A2 and B2 are for 230 volts, those labeled A8 and B8 are for 208 volts.

Union Struggle--

(Concluded from Page 1, Column 3)

Employees International Union Local 32-E. The core of this union is the janitors who work in New York buildings.

With control of the janitors, it was easy for Lewis to bring pressure to bear on those workers who had to get into a building to perform service or installation operations.

Lewis' first organizing move was among the domestic refrigeration service firms who handle the big apartment houses in the Bronx. Since it was vital for them to get into a building in order to get any work, they were pretty readily organized into D (the refrigeration section of Local 32-E).

Having found this move to be a good one, and the refrigeration field apparently an active and well-paying one, Lewis was preparing to move into the whole broad field of refrigeration and air conditioning installation and service workers.

It is said that at a New York State AF of L meeting representatives of the steamfitters protested this move by Lewis, but the latter packed so much political weight within the union that he backed them down.

Lewis also had considerable power in the Federal Trades Council and had he lived, he might have tried his organizing tactics in the refrigeration field on a nation-wide basis.

His two lieutenants who are now said to be active in trying to organize the field with an independent union are Milton Levine and Philip Vicanza. How broadly they are trying to organize may be indicated by the name of their union, which is:

Refrigeration, Air Conditioning, Appliance Installation, Service, and Production Employees Union Local No. 1 (Independent).

NARDA Meeting--

(Concluded from Page 1, Column 2) and a talk on "Enthusiasm In Selling" by Claude Tindle, sales training director, General Electric Appliances Co.

Next will be a selling session, with Mort Farr of Upper Darby, Pa. as chairman. Evan Moon of Joske's, San Antonio, Texas, will deliver the keynote address, speaking on "Sell Yourself a Brilliant Future." Five other talks will be presented at this session as follows:

'HIRING AND TRAINING OF SALESMEN'

"Hiring and Training of Salesmen"—C. C. Mussberger, Appliance Mart, Billings, Mont.; "Let's Get Specific: Charting Your Sales"—Reginald P. James, director of sales, Speed Queen Corp.; "Specialty Selling by Demonstration"—Emerson Dole, The Appliance Center, Wichita, Kan.; "The Feminine Angle In Selling"—Mrs. Jessie Cartwright, home service director, Norge Div., Borg-Warner Corp.; "And In Closing . . ."—Farr. At the luncheon session, of which Ward Davison will be chairman, James Broadhurst, Jenkins Music Co., Wichita, is to speak on "Integrity at the Cross Roads."

Following the luncheon, there will be a general session, with Al Robertson of Oklahoma City as chairman. Speakers and their subjects will be:

John M. Otter, vice president, Philco Corp.—"Air Conditioning, 1954"; R. C. Connell, director of sales, Norge—"Building Laundry Equipment Volume"; Don Gabbert, Gabbert's, Minneapolis—"Planned Buying Is Better Buying"; Richard Wright, food plan sales manager, Mort Farr, Upper Darby, Pa.—"The Freezer Business Belongs to You."

Also, E. C. Rankin, business manager, National Appliance Trade-In Guide Co., Madison, Wis.—"Horse Trading Has Outlived the Horse," and Sheldon Bascomb, Union Electric Co., St. Louis, and chairman of the Dealer Coordination Committee, Edison Electric Institute—"Adequate Wiring."

ANNUAL BANQUET

NARDA's annual banquet will be held Monday evening, with H. B. Price as chairman and Dr. Kenneth McFarland, educational consultant, General Motors Corp., as principal speaker.

Another breakfast session is scheduled for Tuesday morning. NARDA Managing Director A. W. Bernsohn will be chairman. During this session dealers will hear reports of the manufacturer relations, service, and standardized bookkeeping committees, and awards will be presented.

After the breakfast meeting, Wallace Johnston will preside over a management clinic featuring this panel of experts:

Law—J. A. Cobbe, NARDA chief legal counsel; finance—Joseph Cronin, The Pennsylvania Co. for Banking & Trust; insurance—Edward Mack, Jr., NARDA insurance counselor; taxes—Prof. Ray Howard, Commerce Dept., Northwestern university; and business controls—Johnston.

Speaker at Tuesday's luncheon session will be W. E. O'Brien, general sales manager, Toastmaster Div., McGraw Electric Co., who will talk on "Make Traffic Appliances Your Spur to Sales." He will be introduced by Joseph Fleischaker of Louisville, session chairman.

'LIFE' REPRESENTATIVES ON PROGRAM

Also listed for this session is a presentation entitled "Your Customer Today." Taking part in this feature will be two representatives of Life magazine's retail sales promotions department—John Marin, appliance manager, and Ina Hunningder, home furnishings manager.

Winding up the convention will be a session on color television presented by the Radio-Electronics-Television Manufacturers Association. James D. Secrest, executive vice president of RETMA, will act as chairman.

Four major topics will be discussed by industry leaders: the nature and probable availability of color receivers; service and installation problems; broadcasters' plans regarding color programs; and semi-technical discussion of the newly-announced FCC color standards.

In addition, Dr. W. R. G. Baker, chairman of the National Television Systems Committee, will make a special recorded statement on color TV.

Norge Refrigerator Line for 1954--

(Concluded from Page 1, Column 4) el 960, with a 60-lb. freezer chest, will retail at \$349.95.

Other prices are \$269.95 for the "Jet-D-Frost" model 835 and \$239.95 for the deluxe model 834. Both are 8.2 net (Nema) cu. ft. models.

The company will also offer dealers a special refrigerator, 7.5 net (Nema) cu. ft. model 734, to be open-end priced.

All four top models feature "Handidor" shelves, cross-top freezer chests, butter "banks," and aluminum roll-out shelves.

According to J. M. Tenney, refrigerator and freezer sales manager, the 1954 Norge short refrigerator line covers every consumer need and eliminates high inventory investment problems for dealers and distributors alike.

Entirely insulated from the refrigerator section, the separate Customatic freezer chests automatically maintain "zero-zone" temperatures, "low enough to insure safe freezing and long-term storage of hard-to-keep foods such as ice cream and fat meats," it was stated.

"A food freshener plate at the rear of the Customatic refrigerator storage compartment keeps temperatures automatically between 38° and 42°. These temperatures are maintained regardless of varying food loads and room temperature fluctuations.

"Since the Customatics defrost after each cycle, no special defrosting mechanism is needed. Balanced humidity in the refrigerator compartment keeps foods from drying out, whether covered or uncovered."

All shelves on the Customatics are

gold anodized aluminum "roll-outs." Other features include Handidor shelves, butter bank, tall bottle basket, removable egg nest, twin porcelain vegetable bins, and a meat saver.

Model 835 Jet-D-Frost refrigerator defrosts at the user's convenience by pushing the defrost button. Model 834 deluxe refrigerator is defrosted manually.

Both models have a 34-lb. capacity full-width aluminum freezer chest, insulated frozen storage tray, full-width porcelain crisper, roll-out shelf, Handidor with egg storage shelves, and butter bank.

Model 734, the special refrigerator, also has a 34-lb. aluminum freezer chest, insulated frozen storage tray, and full-width porcelain crisper.

New "artic mist" color tone and gold tone trim the inner liner of main door, throat lining, front of freezer compartment, and crispers on all 1954 Norge models. Customatics have gold tone trim on all shelves, egg nest, and exterior base.

Interiors are of titanium porcelain. Exteriors are of "Norgloss" baked enamel.

All models have a new angular chrome-plated "Handilatch," the Norge "Power King" compressor, interior recessed light, a five-year protection plan, and are insulated throughout with high-density glass fiber.

Over-all dimensions of the models in inches are: Model 1180—61 1/2 high by 30 3/4 wide by 28 3/4 deep; model 960—57 1/2 high by 27 3/4 wide by 28 3/4 deep; model 835, 834, and 734—56 high by 23 3/4 wide by 30 3/4 deep.

Remington "Bedfellow"—1/2 h.p. deluxe. The most popular size bedroom unit in America.



HERE THEY ARE!

the sure-fire sales builders of the air conditioning industry
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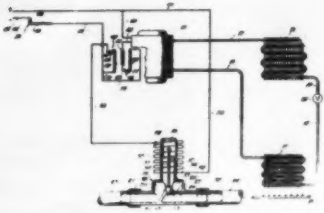
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DELICATESSEN CASES — OPEN & CLOSED
PRODUCE CASES — OPEN & CLOSED
REACH-IN REFRIGERATORS
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For specifications and prices, write to Box 4469, Air Conditioning & Refrigeration News.

PATENTS

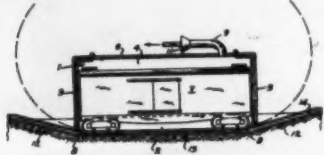
Week of September 8

2,651,182. CONTROL SYSTEM FOR REFRIGERANT CONDENSING UNITS. William F. Borgard, Evansville, Ind., assignor to International Harvester Co., a corporation of New Jersey. Application Dec. 29, 1950, Serial No. 203,449. 3 Claims. (Cl. 62-4.)



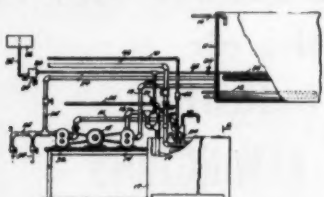
1. In a refrigeration system, the combination of a hermetically sealed casing, a compressor, a motor for the operation of said compressor, said motor and said compressor mounted within said hermetically sealed casing, a first circuit for connection to a power source, said first circuit including a thermostatic switch, a resistor, and said motor, said resistor formed to radiate quantities of heat proportional to the current therethrough, said thermostatic switch mounted in close proximity to said hermetically sealed casing and said resistor, so that any heat radiated by said resistor and any heat radiated by said hermetically sealed casing will be radiated to said thermostatic switch, a condenser connected to said compressor, water spray means for cooling said condenser, a solenoid valve for controlling the operation of said spray means, a second circuit for connection to said power source, said second circuit including a second thermostatic switch and said solenoid valve, said second thermostatic switch positioned in close proximity to said resistor, so that any heat radiated from said resistor will heat said second thermostatic switch, said first thermostatic switch being biased so that the contacts thereof are closed when the heat radiated from said hermetically sealed casing and the heat radiated from said resistor are in a normal range, said second thermostatic switch being biased so that the contacts thereof are open when the heat radiated from said resistor is in a normal range.

2,651,194. VACUUM METHOD AND DEVICE FOR COOLING PRODUCE. Morris Kasser, Roseville, Calif. Application Nov. 14, 1949, Serial No. 127,001. 10 Claims. (Cl. 62-89.)



5. An apparatus for cooling produce comprising a closed chamber, a device to draw rapid vacuum in said chamber, operable means to allow entrance into and exit from said chamber, and a pit formed in the bottom of said chamber containing liquid.

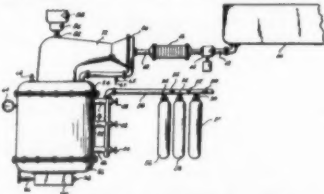
2,651,185. APPARATUS FOR PROCESSING LIQUIDS TO CONVERT THEM INTO SEMI-SOLID OR SOLID FORM. Henry T. Shore, Savannah, Ga.; Harry T. Shore, Jr., executor of said Henry T. Shore, deceased. Application Nov. 2, 1949, Serial No. 125,067. 4 Claims. (Cl. 62-114.)



1. Apparatus for processing a liquid to convert it to a semi-solid state, comprising a holding tank for receiving and holding the liquid to be treated; a refrigerating compartment; a chilling coil mounted in said compartment and having an inlet connection and an outlet connection for the continuous passage of such liquid

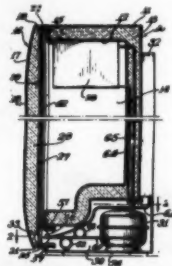
therethrough; means for refrigerating said compartment to convert the liquid to a semi-solid state during its flow through said coil; a positive displacement gear pump having its suction end connected to said holding tank and its discharge end connected to the inlet connection of said chilling coil; a conduit having at least one filling spout connected thereto; a second positive displacement gear pump having its suction end connected to the outlet connection of said chilling coil and its discharge end connected to said conduit; a motor connected to drive said pumps at a constant speed to deliver said liquid from said holding tank into said chilling coil where it is converted into a semi-solid and to deliver the semi-solid formed in the chilling coil to the filling spout and to agitate the liquid and semi-solid as it passes through the respective pumps; and a small defrosting conduit adapted to be connected to a source of heating medium mounted within and extending through said chilling coil for preventing the semi-solid material passing therethrough from freezing and clogging up the chilling coil and for quickly melting the semi-solid material therein whenever the chilling coil is to be cleaned out.

2,651,186. CONTINUOUS ICE CREAM FREEZER AND METHOD OF MAKING ICE CREAM. Walter L. Murphy, Kansas City, Mo., assignor to De-Raef Corp., Kansas City, Mo., a corporation of Missouri. Application Jan. 17, 1951, Serial No. 206,378. 10 Claims. (Cl. 62-114.)



7. A method of freezing ice cream including the steps of mixing a chilled gas with an ice cream mix to precool the same in a mixing zone, chilling the pre-cooled mix by heat exchange with an expanded gas in a heat exchange zone, passing the expanded gas from the heat exchange zone to the mixing zone as the chilled gas being incorporated in the mix, and continuously expanding a compressed gas in the heat exchange zone to supply the chilled, expanded gas.

2,651,187. REFRIGERATING APPARATUS HAVING MEANS FOR PREVENTING CONDENSATION OF MOISTURE ON THE DOOR. Charles D. Harris and John R. Prosek, Evansville, Ind., assignors to International Harvester Co., a corporation of New Jersey. Application Feb. 7, 1952, Serial No. 270,426. 10 Claims. (Cl. 62-116.)



9. In a refrigerated cabinet having a storage compartment, a door for closing said compartment, a coil positioned in heat exchange relation with said door, a refrigeration system comprising a compressor, condenser and evaporator, said coil being connected to a first boiler which is secured to said door and partially filled with a volatile liquid, a heat exchanger movably secured to said cabinet, said heat exchanger being connected to a second boiler which is fastened in heat exchange relation to said compressor, said second boiler being partially filled with a volatile liquid which will be vaporized by heat from the compressor and circulated through said heat exchanger, and means for biasing said heat exchange unit into contact with said first boiler so that the liquid in said first boiler will be vaporized and circulated through said tube.

2,651,503. SYSTEM OF RADIANT HEAT EXCHANGING. Clarence A. Mills, Cincinnati, Ohio, assignor to Reflectotherm, Inc., Cincinnati, Ohio, a corporation of Ohio. Application Dec. 2, 1950, Serial No. 198,905. 4 Claims. (Cl. 257-8.)

1. A body heat loss controlling system comprising an enclosure having a ceiling,



PROCUREMENT INFORMATION

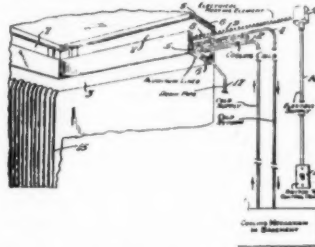
The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing officer under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal.

DEPARTMENT OF DEFENSE

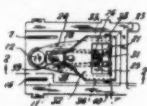
Description	Quantity	Invitation No.	Opening Date
Charleston District, Corps of Engineers, Box 905, Charleston, South Carolina	Unit	(ENG-38-081-54-12B)	19 Jan 54
Construction of cold storage warehouse, Charleston Air Force Base, Charleston, South Carolina.	Price		
Corps of Engineers, Office of the District Engineer, Omaha District, 1709 Jackson St., Omaha 2, Nebraska	Job	(ENG-25-066-54-44)	29 Jan 54
Construction of Rework of Air Conditioning System, TCA, Minneapolis, Minn.			

All Contractors interested in inspecting the site of the proposed work should contact the Office of the Resident Engineer, Corps of Engineers, Twin Cities Arsenal, Minneapolis, Minn. The work will include: Reworking of existing Buffalo Forge Co. air washer to provide readily removable eliminator plates and the furnishing of one complete set of eliminator plates (made up in bundles) as spare set. Plans, specifications, and proposal forms will be furnished by this office upon request to the District Engineer, Omaha District, Corps of Engineers, 1709 Jackson St., Omaha 2, Nebr., Attn: Construction Div. Plans and specifications will be on file in this office and in the office of the Resident Engineer, Twin Cities Arsenal, Minneapolis, Minn.



walls, and floor, said ceiling, walls and floor having substantially fully reflective interior surfaces for heat rays beyond the range of the visible spectrum, means for delivering into said enclosure filtered air under a pressure greater than that of the ambient atmosphere whereby soiling of the heat reflective surfaces which would make them less than substantially fully reflective is prevented, a trough opening into said enclosure supported adjacent to said ceiling, one wall of said trough facing into said enclosure and extending upwardly from the bottom of the trough towards said ceiling, and heating and cooling means, selectively operable, positioned within said trough, the said one wall of said trough extending upwardly to a point above the uppermost part of said heating and cooling means, so as to prevent heavy cold air from overflowing into said enclosure.

2,651,690. ELECTRIC SNAP SWITCH. Estel C. Baney, Delaware, Ohio, assignor to Ranco Inc., Columbus, Ohio, a corporation of Ohio. Application June 17, 1950, Serial No. 168,747. 2 Claims. (Cl. 200-67.)



1. In a snap switch, supporting structure, a contact carrying strip supported at one end and adapted to have its opposite end move between two spaced stops, said strip having a central, longitudinally extending opening, a relatively rigid U-shaped toggle arm disposed in said opening and having the legs thereof pivoted at one end on said strip adjacent to said opposite end of said strip, the yoke end of said toggle arm being swingable through the opening in said strip, an actuating member having a part movable through the opening in said strip, a spring interconnecting part of said actuating member and the yoke of said toggle arm and arranged to urge the toggle arm in the direction of its pivot the point of connection of said spring with said part of said actuating member being beyond the pivoted ends of the legs of said toggle arm, said part of the actuating member being movable from one side to the other of a line through the pivot of said toggle arm and the point of connection of said spring with said toggle arm, and means including two spaced stops associated with said toggle arm for limiting swinging of said toggle arm to cause said point of connection of the spring therewith to swing between positions on opposite sides of a plane through the said strip and normal to the direction of movement of said strip.

2,651,691. CONTROL DEVICE FOR REFRIGERATION SYSTEM. Charles W. Coblenz, Alexandria, Va. Application Sept. 22, 1950, Serial No. 186,254. 8 Claims. (Cl. 200-32.)

1. In a switch mechanism, a switch device including two contacts one responsive to a magnetic field and movable relative to the other, a vertically movable member carrying said switch device adapted to move downwardly by gravity action, means for engaging and moving said member upwardly and maintaining the switch device in elevated positions against the action of gravity, magnetic actuating means for said switch device for moving one contact relative to the other, a second member movable vertically and downwardly by gravity action carrying said magnetic actuating means along the path of movement of the switch de-

Government Contracts

where additional information concerning the proposed work may be obtained. Plans and specifications will also be available for inspection at the following places:

Kansas City District, Corps of Engineers, 601 Davidson Bldg., Kansas City, Mo.
Denver Area, Corps of Engineers, Bldg. No. 52, Denver Federal Center, Denver, Colo.
St. Paul District, Corps of Engineers, 1217 U. S. Post Office and Customhouse, St. Paul, Minn.
Chicago District, Corps of Engineers, 475 Merchandise Mart Plaza, Chicago 54, Ill.
Officer in Charge of Construction, First Naval District, Boston, Massachusetts
Central heating plant extension NAS Quonset Pt. Job 29585B 26 Jan 54
RL \$60.00 deposit for Bidding Data, check payable Treas. U.S.

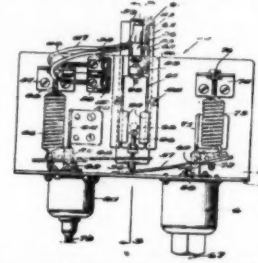
GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
General Services Administration, 19th & F Sts., N.W., Washington, D. C.			
Additional air conditioning equipment at General Accounting Office Bldg., Washington, D. C. Two additional fans, filters, dehumidifiers, heating coils, temperature control equipment, ducts, conduit and wiring.	Job	49-029-1	(on or about) 18 Jan 54

CONTRACTS AWARDED THROUGH DEC. 28

Bureau of Ships, Washington, D. C.
Ice Cream Making equipment.—17: Condensing Unit for ice cream making equipment.—1. 92.774.—The Bastian-Blessing Co., Chicago, Illinois.
The Quartermaster Purchasing Division, Columbus General Depot, Columbus 15, Ohio
Condensing unit.—184 ea., \$37,917.—Copeland Refrigeration Corp., Clifton & Thomas Sts., Sidney, Ohio.

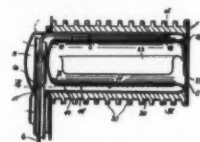
vice, and means for engaging and moving the second member upwardly and maintaining the magnetic actuating means in



elevated positions against the action of gravity in operative and inoperative positions relative to said switch device.

Week of September 15

2,651,923. EVAPORATOR FOR REFRIGERATING APPARATUS. Hans Stierlin, Zurich, Switzerland. Application Dec. 28, 1949, Serial No. 135,501. In Switzerland Sept. 2, 1949. 6 Claims. (Cl. 62-126.)



1. In a refrigerating apparatus of the absorption type, a horizontally arranged evaporator comprising a pair of hollow cup-shaped bodies arranged co-axially one within the other in spaced relation to each other, the rims of said bodies being joined together with a gas-tight joint thereby forming an evaporating chamber between the bodies, the inner cup-shaped body defining a cooling chamber, a gas-inflow pipe extending through the lower end portion of the side wall of the outer body opposite its rim in gas-tight relation to said side wall, said gas-inflow pipe extending into the space between the end walls of said bodies and having a discharge opening, means for conducting a refrigerant onto the outer surface of the inner body, and means for conducting gas and vapor from the evaporating chamber.

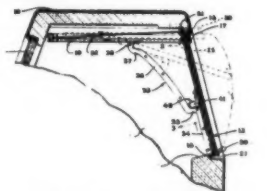
2,652,071. VALVE. Samuel O. Morrison, Media, Pa.; Ella P. Morrison, executrix of said Samuel O. Morrison, deceased, assignor to Sunroc Refrigerating Co., Dover, Del., a corporation of Delaware. Original application Nov. 23, 1948, Serial No. 62,467. Divided and this application Oct. 17, 1949, Serial No. 124,765. 1 Claim. (Cl. 137-630.22.)



In a valve, a cylindrical valve housing, walls forming an inlet valve chamber at the rear end of the housing, an inlet connection at relatively high pressure to the inlet valve housing, walls forming an outlet valve chamber hydraulically separate from the inlet valve chamber toward the front end of the housing, an outlet connection to the outlet valve chamber at relatively low pressure, an inlet valve seat in the inlet valve chamber directed toward the rear of the valve, an outlet valve seat in the outlet valve chamber directed toward the rear of the valve in line with the inlet valve seat, an operating handle at the front of the housing, an outlet valve plunger connected to the handle and extending through the outlet valve seat, an outlet valve secured on the outlet valve plunger engaging the outlet valve seat in closed position, and closing by motion of the outlet valve plunger toward the front of the housing, spring means located inside the handle urging the outlet valve plunger toward closed position of the outlet valve, an inlet valve plunger extending in prolongation of the outlet valve plunger, making a lost

motion connection with the outlet valve plunger and extending through the inlet valve seat, an outlet valve secured on the inlet valve plunger engaging the inlet valve seat in closed position and closing by motion toward the front of the housing, spring means urging the inlet valve toward closed position, a connection to the inlet valve seat on the side toward the front of the valve housing and a connection to the outlet valve seat on the side forward of that valve seat in the housing, the two connections last named being connected to one another to provide flow through the inlet valve seat and through the connections last mentioned and then through the outlet valve seat when both valves are open.

2,652,305. SERVICE DOOR FOR REFRIGERATOR DISPLAY CASES. Enoch Swedman and Herman J. Strobush, St. Paul, Minn., assignors to Seeger Refrigerator Co., St. Paul, Minn. Application May 17, 1948, Serial No. 27,516. 2 Claims. (Cl. 312-132.)



1. A refrigerator display case door mounting for a refrigerator cabinet having an elongated door opening, a gasket extending along the outer surface of said cabinet adjacent the lower edge of said opening, a gasket extending along the inner surface of the cabinet adjacent the upper edge of said door opening, a door engageable against said gaskets, and door supporting means including first and second pairs of rollers, said first rollers being supported in axial alignment near opposite ends of the door near the upper edge thereof, a substantially horizontal first track in said cabinet at each end of said door on which said first rollers are supported, said first track being provided with a downwardly sloping cam portion adjacent the door opening, said second rollers being secured in axial alignment to opposite ends of said door intermediate the top and bottom edges thereof, and a second track at each end of said door within said cabinet, said second track being upwardly inclined to guide the lower edge of the door upwardly as the upper edge of the door moves horizontally, and said second track having a horizontal lower end portion acting to substantially support the weight of the door in closed position thereof, whereby the downwardly sloping cam portion will urge the first rollers outwardly to thereby cause pivoting of said door about the horizontal lower portion of said second track to thereby urge said door into engagement with both named gaskets.

AVAILABLE FOR LICENSING OR SALE

General Electric Co. offers the patents listed below for non-exclusive licensing upon reasonable terms to domestic manufacturers.

Applications for license may be addressed to: Manager, Patent Services Dept., General Electric Co., 1 River Rd., Schenectady, N. Y.

The following 5 patents relate to: Refrigerator systems and cabinets; devices for indicating the amount of frost on evaporators; and automatic defrosting means.

Pat. 2,618,934. Defrost Indicator for Refrigerators. Nov. 25, 1952. Group 35-84. Reg. No. 51,594.
Pat. 2,619,067. Frost Indicator for Refrigerators. Nov. 25, 1952. Group 35-84. Reg. No. 51,595.
Pat. 2,621,489. Refrigerator Cabinet Having Means to Improve Temperature Distribution. Dec. 16, 1952. Group 35-84. Reg. No. 51,596.
Pat. 2,622,406. Two-Temperature Refrigerating System. Dec. 23, 1952. Group 35-84. Reg. No. 51,597.
Pat. 2,624,180. Automatic Defrost Actuator. Jan. 6, 1953. Group 35-84. Reg. No. 51,598.

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Methods of Measuring, Controlling Humidity Of Gases Discussed by Hawkins of Foxboro

WASHINGTON, D. C.—Various methods of measuring and controlling humidity of gases were outlined for the American Society of Refrigerating Engineers at its 49th annual meeting here by J. C. Hawkins of the Foxboro Co.

"Dewpoint is often a better measurement of the amount of water vapor present in a gas," Hawkins said, explaining that "it is customary to measure relative humidity with an organic material," such as hair.

"With an increase in relative humidity, the material lengthens. Dewpoint can be measured by noting the temperature at which condensation occurs on a brightly polished surface. Hygroscopic salts can also be used to measure relative humidity or dewpoint."

Use of hygroscopic salts for humidity measurement and control involves the flow of electric current through such salts between parallel wires, the flow occurring when the salt is wet. Flow of the electric current dries the salt. This breaks the current. Absorption of moisture by the salt again starts the flow of current.

By noting the concentration of the salt solution and the temperature of that solution when it reaches equilibrium, temperatures can be measured and dewpoints determined, Hawkins indicated.

Discussing control systems in general, Hawkins said that pneumatic

controls are almost universal in industrial applications.

"Drier equipment is sometimes needed for the air in pneumatic control systems to prevent condensation within the air lines due to changes in the ambient temperature."

He described a controller which measures the dewpoint of the air in the pneumatic system as well as the ambient air temperature and then controls automatically the operation of a drying system for the air in the pneumatic control system.

Another humidity control described by Hawkins was the "warehouse condensation control" designed to prevent condensation in warehouses where such condensation would damage items in storage.

"This control determines the dewpoint of air and then positions the index of the heating control so that the latter keeps the warehouse temperature well above the dewpoint."

Questioned as to what are limiting temperatures on the dewpoint control element and the effect of other gases in the air on the validity of the dewpoint measurement, Hawkins replied:

"With the 'Dewcel' element, humidity can be measured down to -50° dewpoint, which represents an ambient of about -10° F. If ethylene glycol vapors, for example, are present in air, they will form an antifreeze solution and thus affect the dewpoint reading."

Schnacke Plans Series Of 'Customer Interest' Meetings During 1954

EVANSVILLE, Ind.—A program of "customer-interest" meetings for 1954 to be held in more than 41 cities throughout the nation was announced recently by Frank D. Klein, sales manager for Schnacke, Inc. here.

"Designers and installers of refrigeration and air conditioning equipment are far more interested today in what their counterpart is doing in another part of the country than they are in how much better one manufacturer's product is than his competitor's," Klein explained.

"New, different, and suggestive applications can often mean, in many cases, potential sales previously passed up through unfamiliarity with such applications and their requirements."

"Discussing in a general way the various operations and requirements of an industry wherein refrigeration and air conditioning is used often sparks a thought leading to recognition of existing business right under the listener's nose—business he has been afraid to tackle because of his unfamiliarity with its requirements."

Klein said that Schnacke representatives have been mailed three categories from which they can pick some 11 topics. Representatives can select a topic in keeping with the tenor of the group they wish to have at their meetings.

Categories cover equipment selection and operation, typical refrigeration applications, and air conditioning and commercial refrigeration—their fields.

Typical topics are: "A simplified load method for selecting equipment in normal applications of low tonnage in the air conditioning field," "cooling requirements in the plastics industry," and "air conditioning and commercial refrigeration—vital to America."

Klein expects meetings of this type to bring much needed information home where it will do the most good, act as a showcase for direct application of the company's products, and take the listener off the beaten track while entertaining him.

NEMA Refrigerator Sales Total 3,153,887 Units For First 10 Months of 1953

Summary for October and First Ten Months, 1953

Complete Electric Household Refrigerators Only—Sales by Sizes—Units

Sizes	OCTOBER (17 Companies)			
	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	.....	.....	.....	.....
2. 4 cu. ft.	1,550	.....	71	1,621
3. 5 cu. ft.	15	.....	13	28
4. 6 cu. ft.	5,207	1	513	5,721
5. 7 cu. ft.	23,789	1,630	5,404	30,823
6. 8 cu. ft.	24,852	84	3,361	28,297
7. 9 cu. ft.	40,499	386	5,355	46,240
8. 10 cu. ft.	16,278	579	1,153	18,010
9. 11 cu. ft.	37,129	233	1,717	39,079
10. 12, 13 cu. ft. and up..	9,454	67	409	9,930
11. Total	158,773	2,980	17,906	179,749
Refrigerators Having Two Exterior Doors (All Sizes Included In Above)	19,172	22	797	19,991

Sizes	FIRST TEN MONTHS (17-18 Companies)			
	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	.....	.....	.....	.....
2. 4 cu. ft.	17,736	5	1,551	19,292
3. 5 cu. ft.	976	247	196	1,419
4. 6 cu. ft.	106,368	139	14,031	120,538
5. 7 cu. ft.	448,170	23,874	38,999	511,043
6. 8 cu. ft.	409,088	17,605	40,923	467,616
7. 9 cu. ft.	759,485	39,795	55,989	855,269
8. 10 cu. ft.	377,361	28,509	16,425	422,295
9. 11 cu. ft.	565,696	11,334	22,383	599,413
10. 12, 13 cu. ft. and up..	150,229	2,375	4,398	157,002
11. Total	2,835,109	123,883	194,895	3,153,887
Refrigerators Having Two Exterior Doors (All Sizes Included In Above)	303,355	2,008	13,816	319,179

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley and Bendix Divs.); Coolerator Co., a Div. of International Tel. & Tel. Corp.; Deepfreeze Appl. Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co.; Norge Div., Borg-Warner Corp.; Philco Corp., Major Appliance Div.; Quicfred, Inc.; Seeger Refrigerator Co.; Servel, Inc. (In 3-1-53); Westinghouse Electric Corp.

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POSITIONS WANTED

EXPORT DEVELOPMENT—American graduate engineer, past five years in Brazil engaged complete organization manufacturing and distribution program air conditioning and refrigeration products top U. S. manufacturer, returning United States, desires position established manufacturer, projecting active expansion foreign field, offering real responsibility, commensurate compensation. Reply BOX 4470, Air Conditioning & Refrigeration News.

SALES MANAGEMENT, development, and product promotion executive with ability and extensive experience in the air conditioning, refrigeration, and heating industry. Open for position after January 15. Industry acquaintance national with manufacturers, distributors, wholesalers, dealers, and manufacturers' agents. Right age. Large and small corporation experience. BOX 4471, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

SALES MANAGEMENT, sales training and sales outlet development executive, with aggressiveness, real ability, and extensive experience in residential and commercial air conditioning market wanted by well-established manufacturer's representative with an existing sales organization in most major cities of the south. Territory involved—nine southern states. Headquarters offices—Birmingham, Alabama. Customers will include distributors, jobbers, and large installing contractors and dealers. Equipment—self-contained, all-year air conditioning units for summer and winter operation. Send photograph and details in first letter, including age, experience, references, and compensation requirements. Write: BOX 4465, Air Conditioning & Refrigeration News.

SALES ENGINEER: Age 25 to 35, to join leading condensing unit eastern sales force. Fairly consistent travel required contacting wholesalers and manufacturers. Compensation and future opportunity worthy of top man. Factory training included in indoctrination. Please include photograph with resume of education and experience when replying to BOX 4468, Air Conditioning & Refrigeration News.

FIELD SALES manager for air conditioning division of well-established, diversified, AAA-1 company. To head national sales of residential, commercial, and industrial units. Experience with manufacturers' representatives essential; engineering degree preferred. Salary open. Send complete resume to BOX 4472, Air Conditioning & Refrigeration News.

WANTED: A fully experienced commercial refrigeration and air conditioning man, by dealer in southwestern Ohio. In reply, give age and full experience. This is year-round work at a good salary. BOX 4473, Air Conditioning & Refrigeration News.

SALESMAN WANTED by large manufacturer. Experienced in commercial refrigeration and with a metropolitan N.Y.C. following, to call on restaurant equipment dealers, store fixture dealers, dairies and ice cream manufacturers, and refrigeration contractors. High earning potential, with complete, competitive, nationally-known line. Drawing account can be arranged. Replies held confidential. BOX 4474, Air Conditioning & Refrigeration News.

SALES ENGINEER, air conditioning. A large Midwest Carrier distributor has opening for young man of proven sales ability. Must be capable of engineering, estimating, and selling jobs up to 25 tons. This is an exceptional opportunity to locate with an old and well-established firm offering a profitable and attractive future. Age, 25 to 35. Write giving full particulars of past experience and qualifications. All replies confidential. Write BOX 4475, Air Conditioning & Refrigeration News.

SALES ENGINEERS (2) for New York City distributor of brand-name packaged air conditioning unit. Experience necessary. BOX 4476, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

BRAND-NEW GENERAL Electric and Copeland twin cylinder bodies with flywheel and service valves— $\frac{1}{2}$ hp. only \$42.00. 1 hp., \$47.00 (10% discount in lots of 5). Latest model General Electric fan-cooled hermetic units, $\frac{1}{4}$ hp., \$34.00; $\frac{1}{2}$ hp., \$37.00. Home refrigeration kits, consisting of $\frac{1}{4}$ hp. Tecumseh unit, evaporator and capillary, completely assembled and factory-tested, only \$40.00. All equipment new and factory-guaranteed. **MANN REFRIGERATION SUPPLY COMPANY**, 440 Lafayette Street, New York City; or phone GRamercy 3-8000.

ATTENTION SERVICEMEN—Send for our 1953 Catalog. Relays, expansion valves, controls, dehydrators, V belts, open & hermetic units. All new merchandise at great savings up to 50%. Sold on Money Back Guarantee. **WALTER W. STARR REFRIGERATION**, 2833 Lincoln Ave., Chicago 13, Illinois.

AMMONIA EQUIPMENT. 2 York 4 x 4 compressors (one fair condition, one needs repair), condenser approx. 15' x 15', receiver, 9' x 12', Alco EPR valves, Alco Thermo valves for 15 coils, generous assortment of hand valves, fittings, etc. for above. Will sell cheap as is, where is. **VALLEY PRIDE PACKING COMPANY**, Huntsville, Alabama.

WILL SELL immediately following DC electric motors: Compounds: 5-10 hp. GE, 1- $\frac{1}{2}$ hp. GE, 1-7 $\frac{1}{2}$ hp. Century, 1-10 hp. Westinghouse, 1-2 hp. GE. Compressors: 1-2 $\frac{1}{2}$ hp. GE, 1-3 hp. GE. Compressors: 4-10 hp. Carrier Brunswick, 1-7 $\frac{1}{2}$ hp. Snockey, 1-10 hp. make unknown. Air handling equipment: 4-10 ton Carrier Weathermaker, 4-coils. Very attractive price. FOB as is our premises. **WEEKS REFRIGERATION COMPANY**, 1524 Walnut Street, Kansas City, Missouri.

BUSINESS OPPORTUNITIES

WANTED: PARTY interested in becoming associated with an established air conditioning and refrigeration corporation, located in Central Texas. Prefer party financially able to invest at least \$10,000.00, with experience in some phase of air conditioning, sheet metal, or administration. Address replies to BOX 4468, Air Conditioning & Refrigeration News.

MISCELLANEOUS

AVAILABLE FOR immediate delivery—Up to 48,050 lbs. 1/16" thick grade 270 Panelyte, suitable for painting; sheets 48" x 60". Also, 33,070 lbs. 3/32" thick grade 270 Black Panelyte, sheets 48" x 60". Attractive price. Contact: **DI TELLA CORPORATION**, 150 Broadway, New York City.

Sales of Affiliated Gas Equipment, Inc. Increase For First 9 Months

CLEVELAND—Sales and earnings of Affiliated Gas Equipment, Inc., showed improvement over the preceding year, both during the third quarter and during the nine months ended Sept. 30, 1953, reports Lyle C. Harvey, president.

Net sales for the third calendar quarter amounted to \$16,723,851 as compared with \$15,023,699 in the like period of 1952.

Net earnings (unaudited), after provisions for Federal taxes, amounted to \$494,574, equal, after preferred dividends, to 38 cents per share on the 1,220,325 shares of common stock outstanding. This compares with net earnings of \$341,531 or 26 cents per share on the same period of 1952.

During the nine months ending Sept. 30, 1953, net sales amounted to \$47,785,569 against \$37,919,451 in the like period of the preceding year.

Two New Vice Presidents Elected by Buffalo Forge

BUFFALO—Buffalo Forge Co. has elected William R. Heath vice president-manufacturing and Arthur M. Kiely vice president-finance. The positions are new.

Heath formerly was director of manufacturing. He joined Buffalo Forge in 1922.

Kiely, who continues as controller, joined Buffalo Forge in 1930. Both are directors.

Pittsburgh Corning Opens Branch Office In Toronto

PITTSBURGH—Pittsburgh Corning Corp. has opened a branch sales office at 57 Bloor St., West, Toronto, Ontario, Canada.

E. H. Martin, Jr., formerly manager of "Foamglas" low temperature insulation sales, has been appointed district manager for Pittsburgh Corning's Canadian sales operations.

HOW TO SELL YOUR SALESMEN ON SELLING . . .

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by George F. Taubeneck

The first humorous book on merchandising. You will laugh—learn—profit while you relax with this popular book for businessmen. 400 entertaining, laugh-provoking pages. Immensely enjoyable, as thousands of readers will testify. A best-selling book. . . . **\$3.00**

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The greatest book on appliance merchandising ever written. Written in brisk, interesting style . . . with a wealth of "case histories" showing you HOW—a Chicago Dealer secures prospects for pennies each—25% of the salesmen of a large appliance house sell 75% of the electric ranges—a 65-year-old firm sells 400 refrigerators a year without an outside salesman—to build a profitable service business simply managed . . . and many, many more solid, tested, and proven ideas to help you sell more goods more profitably. Over 600 pages crammed with sales and management ideas you can use TODAY! . . . **\$5.95**

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Finance Plan--

(Concluded from Page 1, Column 5)
franchised by distributors rather than by Carrier directly).

2. Following a 10% down payment, associate dealers will not be required to make any payments for equipment until it is sold or until seasonal closing dates for payment in full have been reached.

3. Distributors will be reimbursed for warehousing and insurance costs through all 12 months of the year, under the extended Douglas Guardian plan.

4. Down payments will not be required from distributors or major dealers at any time.

PROGRAM OBJECTIVES

Objectives of the program are:

1. To provide financing assistance to distributors and dealers, eliminating heavy capital requirements, financing charges, and warehousing costs.

2. To help eliminate shortages at the height of the season by placing stocks of products in dealers' showrooms ahead of and during the highest consumer demand periods.

3. To reduce cost of getting merchandise into consumers' hands by cutting distributor-dealer expenses.

4. To take advantage of the increasingly year-round nature of the air conditioning business by providing for maximum exposure of product to the public through all seasons.

ELIMINATES INTEREST

For approved distributors and major dealers the new plan eliminates the 5% interest charges they paid and warehousing charges they carried throughout all but the four-month winter season. It permits warehousing of equipment up to the distributors' maximum credit line without capital expense.

Distributors now will have to make no down payment and no partial payments while the equipment is in the warehouse. Equipment released from Douglas Guardian custody will be paid for in full on specified payment dates and equipment remaining in the warehouse will be paid for on final due dates. Units shipped up to April 30 to build up advance inventories will not have to be paid for until Sept. 1.

Distributors and major dealers will pay a charge of only three-fourths of one percent interest on equipment released from the warehouse.

AID FOR ASSOCIATE DEALERS

To insure successful operation of the program, a simplified system of credit insurance, monthly trade acceptance renewals, and inventory reports have been arranged for associate dealers.

Approved dealers will get equipment in desired quantities, paying 10% down to distributors and rendering non-interest bearing trade acceptances to Carrier for the remainder.

At the end of the next month following receipt of the equipment and each month thereafter, dealers will submit inventories of equipment stocks, paying for equipment sold and renewing trade acceptances for unsold equipment.

Acceptances for shipments before April 30 will mature on July 1. Those for May shipments will also mature on July 1, those for June on Aug. 1, those for July on Sept. 1, and those for August on Oct. 1.

Bickel said that these inventory reports will not only serve to control payment of trade acceptances and maintenance of credit requirements, but to make sure available equipment is spread out evenly between all outlets and to prevent overstocking when trade acceptances reach maturity.

Dravo Moves Washington Office To Ellicott City, Md.

PITTSBURGH—Dravo Corp. announces that on Dec. 1 its Washington, D. C. office, under the supervision of Jack T. Mason, Jr., will be located at 48 Court St., (Mail address P.O. Box 204) Ellicott City, Md.

Washington telephone calls can be made to ENterprise 1-6000; Baltimore calls to MUlberry 5-8089; and Ellicott City calls to #970.

The new office, being more centrally located, will enable Dravo to serve its customers in Baltimore, Washington, and the surrounding territory with greater efficiency and promptness.

IEEM Elects Seligman Pres., Shelburn Exec. V.P.

NEW YORK CITY—The Institute of Environmental Equipment Manufacturers here has just announced the election of Monroe Seligman, president, Tenney Engineering, Inc., Newark, N. J., as president.

Other officers are executive vice president: C. M. Shelburn, vice president of Webber Mfg. Co., Indianapolis; vice president of low temperature division: R. S. Jamison, vice president of Sub-Zero Products, Cincinnati; vice president of high altitude division: Albert J. Deeb, sales manager of International Radiant Co., Port Washington, L. I., N. Y.; and vice president of special equipment division: David H. Leatherman, president, Bemco, Inc., Los Angeles.

The Institute offers three types of membership: manufacturing, associate, and science. Manufacturing members are firms engaged in the production of environmental equipment. Associate members are companies furnishing supplies to manufacturers or users of environmental equipment. Science members are individuals who use environmental equipment and are interested in advancing the science of the environment.

During the next year the Institute will compile a handbook of all available data on simulating environmental conditions. This handbook will be available to test engineers, designers, manufacturers, and research students in the field of the environment. The Institute also will publish proceedings of the IEEM and the *Environmental Quarterly*.

A contest is planned to encourage the presentation of technical, scientific, and research papers by the membership. Awards will be given at the annual meeting for the best papers submitted. Details of the contest and awards are to be announced shortly.

Dr. George Wilkins is general manager of the Institute with offices at 30 Church St., New York, N. Y.

Environmental equipment is used to simulate low temperatures, high temperatures, salt-spray, sand-storm, rain, altitude, etc. It is used: (1) for laboratory testing of equipment to be used by the military and (2) to determine the effects of weather on such consumer items as plastics, automotive parts, washing machines, etc.

It also is used in manufacturing processes—for example, to cool rubber so that it can be machined and to shrink metal parts for shrink fitting. This equipment simulates temperatures to -150° F.

Winter Marts--

(Concluded from Page 1, Column 5)

Chicago district office and personnel. The old showroom was located in the Furniture Mart and the old district offices in The Merchandise Mart. (See story on page 2.)

A series of press conferences has been scheduled for the show period by The Merchandise Mart. One of these will be an all-appliance conference on Tuesday, Jan. 5. Panel members will include George P. F. Smith, president, Norge Div., Borg-Warner Corp.; John M. Bickel, vice president, Unitary Equipment Div., Carrier Corp.; and Joseph B. Elliott, vice president, Consumer Products RCA Victor Div., Radio Corp. of America.

One of the panel members for another press conference on Wednesday—this one on the outlook for retailers—will be Wallace Johnston of Wallace Johnston Appliances, Inc., Memphis, and president of NARDA.

RACCA Meeting--

(Concluded from Page 1, Column 2)

names of 100 expert speakers from manufacturers, was drawn up by Kromer and George Mills of ARI. The speakers are prepared to talk on a wide variety of subjects.

Local associations across the nation are divided into four zones and each speaker is designated in the roster as to the region in which he will be available.



M. Seligman

Coleman Expands Air Conditioning Line--

(Concluded from Page 1, Column 5)

rative condenser in 2, 3, and 5-ton sizes for commercial installations.

All of the new air conditioning models can be used with conventional forced warm air furnaces as well as with Coleman's small-pipe "Blend-Air" heating system.

While the models cover a wide range of applications, emphasis is on three compact heating-cooling units which, used with the compressor-condenser package, offer reduced operating costs and maximum space-saving within a home.

The compressor-condenser package, called the "Water-Miser," uses and re-uses water in a special way. It lowers electric power consumption by as much as 25% by permitting more efficient operation than is possible with an air-cooled condenser and cuts the amount of water used by a waste-water-cooled system by 97%.

Space is saved within the home because the Water-Miser can be located in an attached garage or carport or even left exposed to the weather.

The 1954 line of the compact heating-cooling units will consist of improved models of the 2 and 3-ton units Coleman first introduced in 1951 and an entirely new 5-ton model. Whereas the 2 and 3-ton units have compact cooling sections mounted on top of the furnace, the 5-ton model is a vertical unit designed for side-by-side installation with the furnace.

The 2 and 3-ton models are compact enough to be mounted in a small

closet; the vertical 5-ton unit is only slightly larger, adding only 21½ in. to the width of the furnace. A feature of the bonnet connector of the vertical unit is an automatic damper which requires no motor to change operation from the heating cycle to the cooling cycle and back again.

The Water-Miser line has been increased with the addition of a 5-ton unit and both 2 and 3-ton units have been improved.

The second type of home air conditioning units consists of self-contained models designed for side-by-side installation with Coleman Blend-Air furnaces or conventional forced warm air heating plants. New for 1954 is a 5-ton model, while 2 and 3-ton models have been improved.

Each of these units houses a cooling coil, compressor, condenser, blower, and electrical control box in a cabinet finished to match the Blend-Air furnace. A highly flexible fan arrangement makes the self-contained models adaptable to the widest possible variety of air delivery systems.

The new self-contained units for commercial installation are also in 2, 3, and 5-ton sizes and are similar to the self-contained residential models, except that they have a special plenum section and adjustable grilles for air delivery. The plenum has been acoustically treated.

The evaporative condenser being introduced for commercial use is called the "Aqua-Fog" and is similar to the Water-Miser except that it does not have a compressor. It is

designed to take the place of conventional cooling towers or waste-water cooling and, like the Water-Miser, permits a 97% saving in water compared to a waste-water-cooling system and reduces electric power requirements as much as 25%. It is being offered in 2, 3, and 5-ton sizes also.

Rounding out the line are two water-cooled condensers, of 2 and 3 tons, for use with the compact heating-cooling units where ample water supply is available or a cooling tower is used.

Eureka Williams--

(Concluded from Page 1, Column 3)
and air conditioning equipment, and is also engaged in production for defense.

The Freeport company, of which C. Russell Feldman is president and principal stockholder, manufactures specialized automotive bodies.

Eureka Vacuum Cleaner Co. was organized in Detroit in 1910. Williams Oil-O-Matic Heating Corp. started operations in Bloomington in 1919. The two firms merged in 1945 and have main offices and the plant in Bloomington.

The share vote for approval of the sale equals more than half of the outstanding.

Use of the proceeds of the sale of Eureka Williams has not yet been determined, but the board of directors of the company has asked its counsel and accountants to prepare plans to provide an opportunity for shareholders to sell their shares to the corporation or elsewhere.

What's a Wholesaler's Salesman?

SOMEWHERE in that golden land "buying men" inhabit—between the first blush of interest and the final inward satisfaction of goods well purchased, there dwells a man with a purpose—a salesman—a wholesaler's salesman.

This wholesaler's salesman is a composite of many things—a well balanced being who daily displays more enthusiasm, tempered with logic; deeper humility in harmony with personal aggressiveness; a greater friendliness throughout a longer day than anyone else on earth.

It doesn't matter much what he looks like or what he sells—a short man selling steel, a tall man selling books—one thing is for sure—he shares with all his brothers a common and demanding creed—to appear his best in the eyes of three people—his customers, himself, and his boss—in that order.

A wholesaler's salesman is a hard-working sportsman-like ball of energy bent upon the destruction of all things, real or imaginary, which stand in the path of consummating a well-planned sale or the creation of a happy and enduring customer-salesman relationship.

About closing the tough ones—he cries "Cinch"



BUY FROM YOUR WHOLESALER

to his boss; "Luck" to his wife; but deep inside his true feelings pour out—the warm, good sense of pride that comes to a man by having done a job through plain hard work.

We all know that products are of little worth in the hands of their manufacturers. To have the success and magnitude of business as we know it today, the goods of one manufacturer must be combined, adapted and modified with goods from a second producer, and so on, in a never ending pattern. Products must move—goods must be sold. That's why wholesaler's salesmen are perhaps, collectively, the most important people we have. They sell more goods, create more wealth and exert a greater force upon the total economic greatness of this country than anyone imagines.

Wholesaler's salesmen are the wonder men of business—They drive more miles; eat more hurried meals; get fewer ulcers; meet more people; and remember names longer than anyone we know.

Wholesaler's salesmen are people who, when golfing with customers, should lose graciously by at least seven strokes; should enjoy catching trains on Sunday; and never be upset by shipments long overdue—A hero with a sales talk—The blood and thunder men of American business—That's today's wholesaler's salesmen.

When the last sale is made and life has resolved itself to comfortable, retired living; who among us has had a wider life—a life filled to the very brim with more of the stuff of richness—personal satisfaction, competitive living, constant challenge and rich, soul-satisfying reward—the wholesaler's salesman.

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